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PROCEEDINGS
OF THE
ELEVENTH ANNUAL CONVENTION
OF THE
ASSOCIATION OF COLLEGES AND
PREPARATORY SCHOOLS
OF THE MIDDLE STATES AND MARYLAND

HELD AT VASSAR COLLEGE, POUGHKEEPSIE, N. Y., FRIDAY
AND SATURDAY, NOVEMBER 26, 27, 1897

CHICAGO
The University of Chicago Press
1898

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Albany High School,	Albany, N. Y.,	Oscar D. Robinson.
Alinda Preparatory School,	Pittsburg, Pa.,	Miss E. G. Stuart.
Bayonne City High School,	Bayonne City, N. J.,	M. J. B. Thomas.
Berkeley Institute,	183 Lincoln Pl. Brooklyn, N. Y.,	Julian W. Abernethy, Ph.D.
Binghamton Central High School,	Binghamton, N. Y.,	Samuel G. Landon.
Bishop Hopkins Hall,	Burlington, Vt.,	Miss E. M. Clark.
Bishopthorpe School,	S. Bethlehem, Pa.,	Alberta Oakley,
Blair Presbyterial Academy,	Blairstown, N. J.,	W. S. Eversole, A.M., Ph.D.
Bordentown Military Institute,	Bordentown, N. J.,	Thomas H. Landon.

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Brearley School,	New York City,	J. G. Crosswell, A.B.
Bryn Mawr School,	Baltimore, Md.,	Miss Edith Hamilton.
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Cheltenham Hills School,	Wyncote, Pa.,	E. W. and A. Heacock.
Chester High School,	Chester, Pa.,	T. S. Cole, A.B.
Colgate Academy,	Hamilton, N. Y.,	Frank L. Shepardon, A.M.
Collegiate Institute,	York, Pa.,	E. T. Jeffers.
Collegiate School,	241 W. 77th St., New York City,	L. C. Mygatt.
Columbia Grammar School,	34 and 36 E. 51st St., New York City,	Benj. Howell Campbell, A.M.
Conference Academy,	Dover, Del.,	W. L. Gooding, Ph.D.
Cook Academy,	Havana, N. Y.,	Roger W. Swetland, A.B.
Curtis School, The	177 W. 73d St., New York City,	Osborn Marcus Curtis, A.B., C.E.
Cutler School, The	20 E. 50th St., New York City,	A. H. Cutler.
Dearborn-Morgan School,	Orange, N. J.,	David A. Kennedy, Ph.D.
Drexel Institute of Art, Science and Industry,	Philadelphia,	James MacAlister, J.L.D.
Dunmore High School,	Near Wilkes Barre, Pa.,	E. D. Bovard.
East Orange High School,	East Orange, N. J.,	Vernon L. Davey, A.B.
Eastburn Academy	700 N. Broad St., Philadelphia,	Geo. Eastburn, M.A., Ph.D.
Easton High School,	Easton, Pa.,	B. F. Sandt.
Emma Willard School,	Troy, N. Y.,	Miss M. A. Knox, A.B.
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Frederick Academy,	Frederick, Md.,	Lucian S. Tilton, A.B.
Friends' Academy,	Locust Valley, Queens Co., N. Y.	J. Chauncey Shortlidge, A.B.
Friends' Central High School,	15th and Race Sts., Philadelphia,	{ Boys' Dept., William W. Birdsall, { Girls' Dept., Annie Shoemaker.
Friends' School,	Wilmington, Del.,	Isaac T. Johnson, A.M.

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Friends' Select School,	140 N. 16th St., Philadelphia,	J. Henry Bartlett.
Friends' Select School,	Washington, D. C.,	Thomas W. Sidwell.
Friends' Seminary,	Rutherford Place, New York City,	Edward A. H. Allen, C. E.
George School,	Newtown, Pa.,	Geo. L. Maris, A.M.
Germantown Academy,	Germantown, Pa.,	William Kershaw, Ph.D.
Girls' High School,	155 Madison Ave., New York, N. Y.,	J. G. Wight, Ph.D.
Girls' High School,	17th and Sp. Garden Sts., Phila.	W. D. Rorer, A.M.
Girls' Latin School,	Baltimore, Md.,	W. H. Kelley.
Hamilton School, The	41st and Chestnut Sts., Philadelphia,	Le Roy Bliss Peckham, LL.B.
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Hill School, The	Pottstown, Pa.,	John Meigs, Ph.D.
Irving College for Young Women,	Mechanicsburg, Pa.,	E. E. Campbell. A.M.
Irving School,	54 W. 84th St., New York City,	Louis Dwight Ray, M.A., Ph.D.
Jacob Tome Institute, The	Port Deposit, Md.,	W. P. Eveland, A.M., Ph.D.
Kingston Academy,	Kingston, N. Y.	M. J. Michael.
Lawrence School,	Lawrence, N. Y.	H. D. Pettit, A.M.
Lawrenceville School,	Lawrenceville, N. J.,	James C. Mackenzie, Ph.D.
Linden Hall Seminary,	Lititz, Pa.,	Rev. C. L. Moench.
Manual Training High School,	Brooklyn, N. Y.,	Charles D. Larkins, Ph.B.
Martin's, Geo. F. Schools for Boys,	39th and Locust Sts., Philadelphia,	George Fox Martin, A.M.
Maryland State Normal School,	Baltimore, Md.,	E. B. Prettyman.
McDonough School,	McDonough, Md.,	James T. Edwards, D.D., LL.D.
Miss Baldwin's School,	Bryn Mawr, Pa.	Florence Baldwin.
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Mixed High School,	3080 Third Ave, New York, N. Y.,	Edward J. Goodwin, Litt.D.
Montclair Public School,	Montclair, N. J.,	Randall Spaulding, A.B.
Moravian Seminary,	Bethlehem, Pa.,	J. Max Hark, D.D.
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Packer Institute,	Brooklyn, N. Y.	Truman J. Backus, LL.D.
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Philadelphia Normal School for Girls,	13th and Sp. Garden Sts., Philadelphia,	George H. Cliff.
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PROFESSOR JOHN B. KIEFFER, Franklin and Marshall College, Lancaster, Pa.

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MR. WILSON FARRAND, Newark Academy, Newark, N. J.
PROFESSOR A. M. ELY, Vassar College, Poughkeepsie, N. Y.

SKETCH OF THE ASSOCIATION OF COLLEGES AND
PREPARATORY SCHOOLS OF THE MIDDLE STATES
AND MARYLAND, FROM ITS ORIGIN IN 1887 TO 1894

The Association of Colleges and Preparatory Schools of the Middle States and Maryland has grown so rapidly, and extended its boundaries so much beyond its original territory, that but few of its present members know its origin and history. It seems well, therefore, to give a sketch of its development.

In the winter of 1887 President Edward H. Magill, of Swarthmore College, delivered a lecture at various colleges in the state of Pennsylvania on "The Importance of a College Education for Teachers in our Public Schools."

While visiting the colleges for this purpose he consulted their presidents as to the feasibility of calling a meeting of college authorities, with the objects of establishing their relations with one another, and procuring certain legislation in favor of educational institutions tending to this result.

Pursuant to a call issued by Presidents, T. G. Apple, of Franklin and Marshall; J. H. M. Knox, of Lafayette, and E. H. Magill, of Swarthmore College, a number of representatives of the colleges of Pennsylvania met at Harrisburg, March 1, 1887. The object of this meeting, as stated in the call, was "to seek at the hands of the present legislature the passage of a new act to render impossible the further taxation of any property of institutions of learning, etc." In addition to the above, which may be called the primary object of the conference, it was tacitly understood among a number of college presidents that an effort should be made to form a permanent organization. Accordingly, near the close of the first session President Magill presented the subject of organizing a permanent college association. A constitution, prepared and presented by him, was thoroughly discussed, and a committee of seven, consisting of Presidents, Magill, of Swarthmore College; Apple, of Franklin and Marshall; Ferguson, of Westminster; Knox, of Lafayette;

McKnight, of Pennsylvania College; Moffat, of Washington and Jefferson, and Seip, of Muhlenberg, was appointed to arrange for completing the organization at a meeting to be called by them at some future day.

This Committee on Organization issued a call for a meeting to be held at Franklin and Marshall College July 5, 1887. All college faculties of the State were invited to participate. Fifteen colleges responded to the call and sent delegates to the meeting. The report of the Committee on Permanent Organization was heard and the Constitution proposed by them was adopted with some amendments.

Sections 1 and 2, Article I, of this Constitution are as follows:

ARTICLE I.

NAME AND OBJECT.

SECTION 1. The name of this Association shall be THE COLLEGE ASSOCIATION OF PENNSYLVANIA.

SEC. 2. The object of this Association shall be to consider the qualifications for candidates for admission to the colleges and the methods of admission; the character of the preparatory schools; the courses of study to be pursued in the colleges, including their order, number, etc.; the relative number of required and elective studies in the various classes; the kind and character of degrees conferred; methods of college organization, government, etc.; the relation of the colleges to the State, and to the general educational systems of the State and country; and any and all other questions affecting the welfare of the colleges, or calculated to secure their proper advancement.

The expenses of holding the meetings of the Association, conducting the correspondence, printing, etc., were to be equally assessed upon the colleges represented in the Association.

Following the work of organization, papers were read by Dr. E. H. Magill, Dr. T. G. Apple, and Dr. E. J. James.

The following were the officers of the Association for the year 1887-8: President, T. G. Apple, D.D., LL.D., Franklin and Marshall College, Lancaster, Pa.; Vice President, E. H. Magill, LL.D., Swarthmore College, Swarthmore, Pa.; Recording Secretary, E. S. Breidenbaugh, Sc.D., Pennsylvania College, Gettysburg, Pa.; Corresponding Secretary, J. D. Moffat, D.D., Washington and Jefferson College, Washington, Pa.; Treasurer, E. J. James, Ph.D., University of Pennsylvania, Philadelphia, Pa.; Executive Committee, in addition to the above officers *ex officio*; Chairman, T. L. Seip, D.D.,

Muhlenberg College, Allentown, Pa.; John Mitchell, A.M., Westminster College, New Wilmington, Pa.; R. B. Youngman, Ph.D., Lafayette College, Easton, Pa.; E. A. Frost, A.M., Western University, Pittsburg, Pa.

At a meeting of the Executive Committee held at the University of Pennsylvania in November following, a committee consisting of Provost William Pepper, University of Pennsylvania; President Sharpless, Haverford College; Professor Richards, Muhlenberg; Professor March, Lafayette; Professor Dubbs, Franklin and Marshall, was appointed on "Uniformity of Requirements for Admission to College," *to confer with the Committee of the Schoolmasters' Association upon this subject. This committee was also requested to confer with colleges of the Middle States and Maryland upon this subject and to invite their coöperation.*

At the second meeting of the committee held in February, 1888, at the University of Pennsylvania, the following action was taken, viz.: "A desire having been expressed by various members of the Association to have the colleges of the Middle States and Maryland meet with us at the coming annual convention, it was decided to send them invitations to be present and take part in our deliberations, with a view to the formation of a general organization of the colleges of these States."

The second annual convention was held at the University of Pennsylvania in July, 1888. At this meeting the name was changed to the "College Association of the Middle States and Maryland," and the Constitution was changed so as to make eligible to membership any college in the states included in its name.

This convention devoted much time to the discussion of "Endowments," and an able paper on this subject was read by Dr. J. G. Fitch, M.A., LL.D., of London, England.

The first annual convention of the Association, after its reorganization, was held at the University of Pennsylvania the Friday and Saturday following Thanksgiving Day 1889. Since that time the Association has held its annual conventions on these days.

The Executive Committee, at its first meeting, recommended to circulate the minutes among the preparatory schools.

The aim of the Association has been to unite the educational interests within its territory. In order to do this most effectively it was long felt by the leading educators of these States that the colleges and preparatory schools must coöperate. Papers developing this idea were read and the subject was brought out in the discussions; *e. g.*, at the first annual convention, Professor Nicholas Murray Butler, of Columbia College, read a paper on "The Duty of the University to the Common Schools," and at the third annual convention, Professor George T. Ettinger, of Muhlenberg College, read a paper on "The Relations and Duties of Colleges to their Preparatory Schools."

At this third annual convention, held at Cornell University, in 1891, several preparatory schools were represented and the question of admitting such schools to membership came up in a definite shape by the application for membership in the Association of "New York College for Training Teachers," which was referred to the Executive Committee and also the question of admitting preparatory schools to membership, and it was requested that said committee report on the same at the next convention. Accordingly, at the fourth annual convention of the Association, held at Swarthmore College, in November 1892, Professor Magill, on behalf of the Executive Committee, recommended the following action: "That we favor such a change in our Constitution and By-Laws as shall make the body representative of all universities, colleges, normal and high schools, and other schools which prepare students for college within the bounds of the Middle States and Maryland." The report was accepted and the proposed resolutions adopted, and the Executive Committee empowered to make the necessary changes in the language of the Constitution.

During the year 1892-3, forty-four preparatory schools, having been approved by the Executive Committee, were admitted to membership.

Article VI of the Constitution has been changed, so that the expenses are now paid by an annual fee of \$5 from each institution represented in the Association.

At present (March 1898), the Association has one hundred and fifty-six institutions on its roll of membership, of which one-third are colleges and universities and two-thirds secondary schools. Its proceedings are published annually.

PUBLICATIONS OF THE ASSOCIATION

The following is a list of the publications of the Association, together with the titles of the papers contained therein :

History of the Organization and the Proceedings of the First Convention of the College Association of Pennsylvania, held at Franklin and Marshall College, Lancaster, Pa., July 5 and 6, 1887. J. B. Lipincott Company, 1887.

"The Proper Relation of Colleges to the Educational Institutions of the State."

President E. H. Magill, Swarthmore College.

"The Idea of a liberal Education." Dr. T. G. Apple, Franklin and Marshall College.

"American University."¹ Professor E. J. James, University of Pennsylvania.

Proceedings of the Second Annual Convention of the College Association of Pennsylvania, held at the University of Pennsylvania, Philadelphia, July 5 and 6, 1888, and its Reorganization as the College Association of the Middle States and Maryland. Globe Printing House, 1888.

"A Collegiate Education." Professor Enoch Perrine, Bucknell University.

"Higher Education." Provost William Pepper, University of Pennsylvania.

"Relations of the College to the University." President Magill, Swarthmore College.

"Endowments." Dr. J. G. Fitch, London, England.

"The Place of History in a College Course." Professor W. P. Holcomb, Swarthmore College.

"The Study of English."¹ Professor Perrine.

Proceedings of the First Annual Convention of the College Association of the Middle States and Maryland, held at the University of Pennsylvania, Philadelphia, November 29 and 30, 1889. Globe Printing House, 1890.

"The Place of Technical Instruction in Our Colleges and Universities." President C. K. Adams, Cornell University.

"Combination of University Training with Technical Education." President Isaac Sharpless, Haverford College.

"Study of English Classics for Admission to College." Professor F. A. March, Lafayette College.

"College Students who are not Candidates for a Degree." Professor Allen Marquand, Princeton College.

"Relation of Pedagogy to the University." Professor Jerome Allen, University of the City of New York.

"The Duty of the University to the Common Schools."¹ Professor Nicholas Murray Butler, Columbia College.

¹ Not published in the proceedings.

- "The Duty of the College to its Students." Professor Wm. A. Lambertson, University of Pennsylvania.
- "The University in Modern Life." Provost Pepper, University of Pennsylvania.
- "The Degree of A.B." Dean Edward H. Griffen, Johns Hopkins University.
- "The Value of the Bachelor's Degree." President Merrill E. Gates, Rutgers College.
- "The Fellowship System in American Colleges." Professor Henry F. Osborn, Princeton College.
- "The System of Admission by Certificate." Professor Horatio S. White, Dean of Cornell University.
- "The Philosophical Faculty in the United States." Professor Monroe Smith, Columbia College.
- "The Right Reform of Examinations." Professor J. Rendell Harris, Haverford College.

Proceedings of the Second Annual Convention of the College Association of the Middle States and Maryland, held at Princeton College, New Jersey, November 28 and 29, 1890. Globe Printing House, 1891.

- "The Coördination of Colleges and Universities." President C. K. Adams, Cornell University.
- "The Shortening of the College Curriculum." President D. C. Gilman, Johns Hopkins University.
- Same Topic. President Francis L. Patton, Princeton College.
- "The Teaching of Philosophy in American Colleges." Professor Thomas Hughes, St. Francis Xavier's College.
- "The Educational Value of College Studies." Professor Simon L. Patton, University of Pennsylvania.
- "University Extension." Provost William Pepper, University of Pennsylvania.
- Same Topic. President Seth Low, Columbia College.
- Same Topic. Commissioner W. T. Harris.
- "Problems in Higher Education." President James C. Welling, Columbian University, Washington, D. C.
- "The Idea and Scope of a Faculty of Philosophy." Bishop John J. Kean, Rector of the Catholic University of America.
- "The Taxation of College Property." President T. L. Seip, Muhlenberg College.
- "The Place of the English Bible in the College Curriculum." President George Edward Reed, Dickinson College.
- "The Ideal College Education." Professor J. G. Schurman, Cornell University.
- "Inductive Work in College Classes." Professor F. H. Stoddard, University of the City of New York.
- "The Relation of the Colleges to the Modern Library Movement." Melvil Dewey, Secretary of the University of the State of New York.
- The Moral and Religious Oversight of Students." Dr. James McCosh, Princeton College.

Proceedings of the Third Annual Convention of the College Association of the Middle States and Maryland, held at Cornell University, Ithaca, N. Y., November 27 and 28, 1891.

- "The True Scope of College Discipline." Professor Jacob Cooper, Rutgers College.
- "The Scope of Modern Languages in Our Colleges and the Best Methods of Teaching Them." Ex-President Magill, Swarthmore College.
- "The Aim and Scope of the Study of Modern Languages and Methods of Teaching Them." Professor O. B. Super, Dickinson College.
- "The English Bible -- Its Study as a Classic in Our Colleges." Professor W. R. Duryea, Rutgers College.
- "The College and the People: How May They be Brought into Closer Relations?" Professor George A. Harter, Delaware College.
- "The Relations and Duties of Colleges to Their Preparatory Schools." Professor George T. Ettinger, Muhlenberg College.
- "On Permitting Students to Take Studies in Professional Schools while Pursuing a Regular Undergraduate Course." Professor Nicholas Murray Butler, Columbia College.
- "On Allowing Undergraduate Students to Study in Professional Schools." Professor C. A. Collin, Cornell University Law School.
- "Athletics and Intercollegiate Games." President Thomas Fell, St. John's College, Annapolis.
- "The Position of Metaphysics in a Course of Scientific Philosophy." Professor E. A. Pace, Catholic University of Washington.
- "Is it Worth While to Uphold any Longer the Idea of a Liberal Education?" President D. C. Gilman, Johns Hopkins University.
- "University Extension." Professor E. J. James, University of Pennsylvania.

Proceedings of the Fourth Annual Convention of the College Association of the Middle States and Maryland, held at Swarthmore College, Swarthmore, Pa., November 25 and 26, 1892. Educational Review, Columbia College, New York.

How can High Schools be made so uniformly efficient that their graduates may, without further preparation, enter college? "The Experience of New York State." Secretary Melvil Dewey.

Same Topic. "Proposals for the Middle States." President George W. Atherton, Pennsylvania State College.

"The Best Methods of Determining and Recording the Scholarship of Students." Dean Horace Jayne, University of Pennsylvania.

Same Topic. Professor M. H. Richards, Muhlenberg College.

How Can the Highest Educational Efficiency be Secured for English in American Colleges?" Professor Felix E. Schelling, University of Pennsylvania.

"The Relation of English Literature to Aesthetics." Professor F. A. March, Lafayette College, Pennsylvania.

"The Scope and Function of Rhetoric and Composition." Professor Charles E. Hart, Rutgers College, New Jersey.

College Libraries: How Best Made Available for College Uses?" Mr. George William Harris, Librarian of Cornell University.

Same Topic. Professor J. H. Morgan, Dickinson College, Pennsylvania.

"Higher Education in the United States." President Seth Low, Columbia College.

"Geography as a Scientific Basis for the Study of History." President D. C. Gilman, Johns Hopkins University.

Geography as a Scientific Basis for the Study of Biology." Dr. Spencer Trotter, Swarthmore College.

"To What Extent is Student Government Available as a Means of College Discipline?" Professor Merrill E. Gates, Amherst College.

Same Topic. Professor James M. Taylor, Vassar College.

"The Relations Between the High School, the College, and the University." Secretary Melvil Dewey, University of the State of New York.

Proceedings of the First Annual Convention of the Association of Colleges and Preparatory Schools of the Middle States and Maryland, held at Columbia College, New York, December 1 and 2, 1893. Avil Printing Company, Philadelphia, 1894.

Should the Degree of Bachelor of Arts be conferred on students who have studied neither Greek nor Latin?

Papers by Professor Andrew F. West, of Princeton College, New York; *Secretary Melvil Dewey, of the University of the State of New York; Principal C. H. Thurber, of Colgate Academy, Hamilton, N. Y.; Principal F. L. Gammage, of the Cathedral School, Garden City, L. I.

Discussion under the five-minute rule, by Professor Morris Loeb, of the University of the City of New York; Professor O. B. Super, of Dickinson College, Carlisle, Pa.; Principal James M. Green, of the State Normal School, Trenton, N. J.

Will any kind or amount of instruction in modern languages make them satisfactory substitutes for Greek or Latin as constituents of a liberal education?

Papers by Professor H. H. Boyesen, of Columbia College, New York; Professor H. C. G. Brandt, of Hamilton College, Clinton, N. Y.; Dr. Julius Sachs, of the Collegiate Institute, New York; Principal James C. MacKenzie, of the Lawrenceville School, New Jersey.

Discussion, under the five-minute rule, opened by Professor E. H. Magill, of Swarthmore College, Pennsylvania.

President's Address. Subject: "The Neglect of the Student in Recent Educational Theory." President James M. Taylor, of Vassar College, Poughkeepsie, N. Y.

Work in English in the Colleges and Preparatory Schools.

Papers by President James C. Welling, of Columbian University, Washington, D. C.; Professor J. Morgan Hart, of Cornell University, Ithaca, N. Y.; Dr. Edward Brooks, Superintendent of Schools, Philadelphia, Pa.; Mr. Wilson Farrand, of the Newark Academy, Newark, N. J.

Proceedings of the Second Annual Convention of the Association of Colleges and Preparatory Schools in the Middle States and Maryland, held at the Johns Hopkins University, Baltimore, Md., November 30 and December 1, 1894. Avil Printing Company, Philadelphia, 1895.

The Place and Teaching of History and Politics in School and College."

* Not published in the proceedings.

Papers as follows :

"Is History Past Politics?" Professor Herbert B. Adams, Johns Hopkins University, Baltimore.

"Ought the Sources to be used in Teaching History?" Professor James Harvey Robinson, University of Pennsylvania, Philadelphia.

The Place of History in the Preparatory Schools." Principal Henry P. Warren, Albany Academy, Albany, N. Y.

"Civics in the Secondary Schools." Mr. Samuel E. Forman, Baltimore.

Discussion, under the five-minute rule, by Professor Franklin H. Giddings, Columbia College, New York City; Principal C. M. Phillips, State Normal School, West Chester, Pa.; Mr. Glenn Mead, Episcopal Academy, Philadelphia, Pa.

Discussion of the Report on the Requirements for Entrance Examinations in English of the Committee of Ten, appointed by the Association at the last Annual Convention.

Papers by Professor Francis H. Stoddard, University of the City of New York; Professor James W. Bright, Johns Hopkins University, Baltimore, Md.; Mr. Wilson Farrand, Newark Academy, Newark, N. J.; Professor Bliss Perry, Princeton College, Princeton, N. J.; Mr. Percival Chubb, Brooklyn Public Schools, Brooklyn.

Discussion, under the five-minute rule, by Professor F. A. March, Lafayette College, Easton, Pa.; Professor John B. Van Meter, Woman's College, Baltimore; Melvil Dewey, Secretary University of the State of New York, Albany, N. Y.; Professor Nicholas Murray Butler, Columbia College, New York City.

"The Future of the College." Papers, limited to twenty minutes each, by Mr. Talcott Williams, Philadelphia Press; President Isaac Sharpless, Haverford College, Pennsylvania; President E. D. Warfield, Lafayette College, Easton, Pa.; President M. W. Stryker,¹ Hamilton College, Clinton, N. Y.

Discussion, under the five-minute rule, opened by Professor Edmund J. James, University of Pennsylvania, Philadelphia; Principal Isaac T. Johnson, Friends' School, Wilmington, Del.

Proceedings of the Ninth Annual Convention of the Association of Colleges and Preparatory Schools of the Middle States and Maryland, held at Lafayette College, Easton, Pa., November 29 and 30, 1895. Avil Printing Company, Philadelphia, 1896.

THE AIM AND METHOD OF COLLEGE WORK IN FRENCH AND GERMAN.

Papers :

Professor Lawrence A. McLouth, New York University.

"The Oral Element in Modern Language Instruction." Mr. I. H. B. Spiers, The William Penn School, Philadelphia.

"Environment in Modern Language Instruction." Professor M. D. Learned, University of Pennsylvania, Pa.

"Some Psychological Aspects of the Teaching of Modern Languages." Dr. Francis Burke Brandt, Central High School, Philadelphia.

Discussion :

Dr. Julius Sachs, Collegiate Institute, New York.

¹ Not published in the proceedings.

Dr. Eliot R. Payson, Rutgers Preparatory Academy, New Brunswick, N. J.
Mr. Randall Spaulding, Montclair Public School, Montclair, N. J.

THE SIGNIFICANCE OF HERBART FOR SECONDARY AND HIGHER EDUCATION.

President Charles De Garmo, Swarthmore, Pa.

Discussion :

Professor Lightner Witmer, University of Pennsylvania, Philadelphia.
Professor Frank M. McMurry, University of Buffalo, Buffalo, N. Y.
Dr. C. Hanford Henderson, Northeast Manual Training School, Philadelphia.
Dr. Walter L. Hervey, Teachers' College, New York City.

THE TEACHING OF THE CLASSICS : ARE WE SACRIFICING THE HUMANISTIC TO
THE LINGUISTIC ?

Papers (limited to twenty minutes each):

Professor W. B. Owen, Lafayette College.
Rev. Chas. H. Wilcox, Lawrenceville School, Lawrenceville, N. J.
Professor W. A. Robinson, Lehigh University, South Bethlehem, Pa.
Dr. M. E. Scheibner, Boys' High School, Reading, Pa.

Discussion :

Professor Chas. E. Bennett, Cornell University, Ithaca, N. Y.
Mr. Henry W. Rolfe, Philadelphia.
Dr. Albert G. Rau, Moravian Parochial School, Bethlehem, Pa.

Proceedings of the Tenth Annual Convention of the Association of Colleges and Preparatory Schools of the Middle States and Maryland, held at the University of Pennsylvania, Philadelphia, Pa., November 27-28, 1896. The Avil Printing Co., Philadelphia, Pa.

"SHALL HISTORICAL STUDIES BE A NECESSARY PART OF COLLEGE ENTRANCE REQUIREMENTS ?

Paper :

Professor H. Morse Stephens, Cornell University.

Discussion (under the ten-minute rule):

Professor John B. McMaster, University of Pennsylvania.
Professor Lucy M. Salmon, Vassar College.
Mr. C. A. Herrick, Central High School, Philadelphia, Pa.

"HIGH SCHOOL SCIENCE STUDIES AS A PART OF THE PREPARATION FOR COLLEGE."

Paper :

Professor Ira Remsen, Johns Hopkins University.

Discussion (under the ten-minute rule):

Professor George F. Barker, University of Pennsylvania.
Mr. O. D. Clark, Boys' High School, Brooklyn, N. Y.

CONFERENCE ON COLLEGE ENTRANCE REQUIREMENTS

Some of the subdivisions of the subject were :

- (a) The advanced age at which the average student now enters college.
- (b) The advanced age at which college men must now enter the professions, and the effect upon the individual and the community.

- (c) The tendency of men to omit the college course as college entrance requirements are increased, that they may enter professional or technical schools directly from the secondary schools.
- (d) Should the present standard of college entrance requirements be lowered through concerted action, and partial, even if not complete, uniformity of requirements?
- (e) A partial reorganization of our public school system, with a view to its more perfect articulation with our colleges.
- (f) Effect of lowering the age of entrance to college upon the undergraduate and graduate study, and upon the social life of the student.

The form decided upon for the consideration of these topics was that of "Round Table" discussion by the following:

Superintendent Edwards Brooks, Philadelphia; President Eliot, Harvard University; Vice-Provost Fullerton, University of Pennsylvania; President Gilman, Johns Hopkins University; U. S. Commissioner of Education W. T. Harris; Chancellor Holland, Western University of Pennsylvania; Principal Levermore, Adelphi College; Chancellor McCracken, New York University; President Patton, Princeton University; President Schurman, Cornell University; President Sharpless, Haverford College; President Thomas, Bryn Mawr College; Dean Thurber, Morgan Park Academy; President Warfield, Lafayette College; Dr. Talcott Williams.

President's Address, Dr. James C. Mackenzie.

Subject, "Democracy in Education."

Brief Address, Charles W. Eliot, President Harvard University.

Proceedings of the Eleventh Annual Convention of the Association of Colleges and Preparatory Schools of the Middle States and Maryland,
held at Vassar College, Poughkeepsie, N. Y., November 26 and 27, 1897.

Address of Welcome.

Response.

"What is the present Consensus of Opinion as to the most important Problems in Preparatory and Collegiate Education?"—President Isaac Sharpless; Dr. Julius Sachs; Professor Henry B. Fine; Mr. Melvil Dewey; Dr. John G. Wight; Mr. A. L. Goodrich; Professor J. H. Robinson; Professor W. W. Birdsall; Professor S. G. Ashmore; Mr. C. D. Ashley; Mr. J. T. Buchanan; Professor Francis Heiermann.

"The Idea of a University."—Address by President J. G. Schurman.

"What is the Consensus of Opinion as to the Place of Science in the Preparatory Schools?"—Professor R. S. Tarr; Mr. C. C. Wilson; Professor E. G. Conklin; Professor LeR. C. Cooley; Mr. C. B. Wood; President Charles DeGarmo; Professor A. P. Brigham.

Treasurer's Report.

DELEGATES REGISTERED

- Adams Collegiate Institute*, Adams, N. Y., Prin. H. Erwin Bard.
- Albany, N. Y.*, English Inspector Charles Davidson, Deputy Supt. Public Instruction
Howard J. Rogers, Supervisor of Institutes A. D. Downing, Inspector of Training Classes Frank H. Wood.
- Albany Academy*, Albany, Prin. Henry P. Warren, Arthur G. Clement.
- Albany High School*, W. D. Goewey, O. D. Robinson.
- Alfred University*, Alfred Centre, N. Y., Pres. B. C. Davis.
- Alinda Preparatory School*, Pittsburg, Ella Gordon Stuart.
- Bayonne High School*, Bayonne, N. J., S. E. Bawden, M. J. B. Thomas.
- Bishop Hopkins Hall*, Burlington, Vt., Miss Edith M. Clark.
- Blakely Institute*, Brooklyn, J. W. Abernethy.
- Bordentown Military Institute*, Bordentown, N. J., Rev. T. H. Landon.
- Bradstreet School, The*, Rochester, Joseph P. O'Hern, John B. O'Connor.
- Braislin School*, Bordentown, N. J., A. G. Braislin.
- Brooklyn Boys' High School*, Mr. and Mrs. O. D. Clark, John B. Dunbar, H. F. Towle, John Mickleborough.
- Brooklyn Girls' High School*, Anna M. Olsdön.
- Brooklyn Manual Training High School*, Herbert Bates, Henry T. Weed, Sidney Edwards, Alfred Mackey, Clarence W. Vail, Irving A. Hazen, Charles D. Lar-kins, Miss Ella E. Atwater, Miss Grace M. W. Flanning, Miss Emma Ribber.
- Brooklyn Public School No. 32*, Frank J. Ulrich.
- Brooklyn Polytechnic Institute*, D. H. Cochran, Erwin S. Spins.
- Binghamton High School*, Binghamton, N. Y., S. G. Landon.
- Bryn Mawr School*, Baltimore, M. D., Edith Hamilton, Jane L. Brownell.
- Canisius College*, Buffalo, N. Y., Francis Heiermann.
- Chapin Collegiate School*, New York City, John K. Lathrop, D. B. Duncan.
- Cheltenham Academy*, Ogontz, Pa., Pres. John C. Rice.
- Chester High School*, Chester, Pa., Thomas S. Cole.
- Clarkson School of Technology*, Potsdam, N. Y., Barton Crinkshank.
- Colgate Academy*, Hamilton, N. Y., F. L. Shepardson, F. A. Gallup.
- Colgate University*, Hamilton, N. Y., W. H. Crawshaw, C. W. Spencer, M. S. Read, R. W. Moore, Albert Perry Brigham.
- Collegiate Institute*, Philadelphia, Prin. Susan C. Lodge.
- Collegiate School*, Mt. Vernon, N. Y., Leila H. Lockwood.
- College of the City of New York*, Prof. A. G. Compton, F. G. Tisdall.
- Columbia Grammar School*, New York City, Theodore C. Mitchell.
- Columbia University*, New York City, Professors William Hallock, Nicholas M. Butler, J. H. Robinson, J. McK. Cattell.
- Cornell University*, Pres. Schurman, H. Morse Stephens, R. S. Tarr, Anna Botsford Comstock.
- Cornwall-on-Hudson High School*, G. H. Baskerville.
- DeGarmo Institute*, Fishkill-on-Hudson, Mrs. J. M. DeGarmo.

- Delaware College*, Newark, Del., G. W. Harter, Frederic H. Robinson.
Dickinson College Preparatory School, Carlisle, Pa., F. E. Downs.
Drexel Institute, Philadelphia, Pres. James MacAlister.
Dunmore High School, Dunmore, Pa., R. N. Davis.
Easton Preparatory School, C. H. Lerch.
East Orange High School, New Jersey, Lincoln E. Rowley, Clara A. Bentley, Louise J. Stackweather.
Elizabeth English and French School, New Jersey, Laura A. Vail.
Emma Willard School, Troy, Julia Anna Haynes, M. A. Knox, M. G. Wilson.
Erasmus Hall High School, Brooklyn, W. B. Gunnison.
Ely School, The Misses, New York City, Miss Elizabeth L. Ely.
Franklin & Marshall College, Lancaster Pa., Professors John B. Kieffer, Joseph H. Dubbs.
Friends' Academy, Locust Valley, L. I., R. G. Bennett, E. C. Parey, A. B. Smedley, E. G. Holmes.
Friends' Central School, Philadelphia, William W. Birdsall, Anna Walter Speakmann.
Friends' School, Germantown, Philadelphia, D. H. Forsythe, Susanna S. Kite.
Friends' School, Wilmington, Del., Isaac T. Johnson.
Friends' Select School, Philadelphia, J. Henry Bartlett, Jane Wetherill Bartlett, Agnes L. Tierney.
Friends' Select School, Washington, D. C., Mr. and Mrs. Thomas W. Sidwell.
Girls' Latin School, Baltimore, Md., S. Laura Ensign.
Haverford College, Haverford, Pa., Pres. Isaac Sharpless.
Hobart College, Geneva, N. Y., Robert Ellis Jones, W. P. Durfee.
Holbrook's Military School, Sing Sing, Henry C. Holbrook.
Hopkins' Grammar School, New Haven, Conn., Prin. George L. Fox.
Hotchkiss School, Lakeville, Conn., Theodor Neumann.
Irving College, Mechanicsburg, Pa., E. E. Campbell.
Irving School, New York City, Mr. and Mrs. L. D. Ray.
Irving Institute, Tarrytown, N. Y., John M. Furman, John A. Potter.
Lawrenceville School, Lawrenceville, N. J., Prin. J. C. Mackenzie.
Lebanon Valley College, Annville, Pa., Pres. H. U. Roop, Mrs. H. U. Roop.
Mackie's Seminary, Miss, Newburg, N. Y., Eleanor J. Mackie, Penelope Patten Morriel.
Manhattan College, New York City, Brothers R. Bernard, Potamian, Justin.
Millersville State Normal School, Millersville, Pa., E. Oram Lyte.
Mohegan Lake School, Peekskill, N. Y., H. Walert.
Montclair, N. J., Supt. of Schools Randall Spaulding.
Montclair High School, New Jersey, Mary W. Carter, Mary M. Crawford, Harriet E. Crouch, Eliza H. Gilbert.
Montclair Military Academy, Charles A. Smith.
Moravian Parochial School, Bethlehem, Pa., Albert G. Rau.
Moravian Seminary, Bethlehem, Elisabeth W. Rondthaler, Helena M. Hoch, Lawrence C. Brickinstein.
Mt. Pleasant Academy, Sing Sing, C. F. Brussie, Arthur T. Emory.
Mt. Vernon High School, Mt. Vernon, N. Y., Emilie V. Brinckerhoff.
Mt. Vernon W. W. Clubs, Mt. Vernon, N. Y., Martha B. Boll, Martha F. Gay.

- National Park Seminary*, Forest Glen, Md., Mrs. John A. Cassedy.
Newark Academy, New Jersey, Wilson Farrand.
Newark High School, E. O. Hovey, Elizabeth Wiggins, Margaret Coult.
Newark Normal School, Agnes Vinton Luther.
New Brighton, Mr. and Mrs. F. E. Partington.
New York Boys' High School, John T. Buchanan, J. J. Sheppard, C. F. Kayser, Charles H. J. Douglass, F. Monteser.
New York Girls' High School, J. G. Wight, Jennie Ackerly, John D. Haney, Mary V. Linden, Josephine Beiderhase, Elizabeth C. Wood, Sally H. Delano, Frances A. Beckwith, Robert H. Cornish, John E. Brown.
New York Girls' School No. 5, John E. Brown.
New York University, Francis H. Stoddard, Clarence D. Ashley, Edward R. Shaw, Henry M. MacCracken, President.
Niagara University, P. McHale, Luke A. Grace.
Pennsylvania State College, Centre Co., F. L. Pattee.
Philadelphia Central High School, Franklin Spencer Edmonds, Lewis R. Harley, Francis Burke Brandt.
Philadelphia Girls' High School, Eda May Peirce, Evaline Young, Mrs. M. C. Geisler, Miss E. L. G. Thomas, Mina L. Bitting, A. V. Stubbs, M. S. Umsted, V. Baldwin, D. M. Barker, M. S. Holmes, Martha Bunting, M. S. Berry, E. L. Graham, K. A. Hoffman, Mary [D. Griffith, Miriam Kuhn, Clara J. Hendley, L. H. Haeseler, A. E. Wight.
Pittsburg High School, C. B. Wood, Anna M. Deens.
Port Chester, N. Y., Supt. of Schools, John C. Rockwell.
Poughkeepsie High School, Louisa H. Vincent, H. Clarke Plum.
Pratt Institute High School, Brooklyn, Wm. McAndrews, A. M. Yarrington.
Packer Collegiate Institute, Brooklyn, Alice W. Allen, T. J. Backus.
Raymond Academy, Camden, N. J., Alice B. Paige.
Rochester Free Academy, Albert L. Arey, John G. Allen.
Rome, N. Y., Inspector of Training Classes, W. E. Stearns.
Rutgers College, New Brunswick, N. J., N. Bruno, H. D. B. Mulford, E. L. Stevenson.
Rutgers Preparatory School, Eliot R. Payson.
Rye Seminary, Rye, N. Y., Harriet T. Stowe, Geneva Tryar.
Sachs' Collegiate Institute, New York City, Prin. Julius Sachs, D. V. Thompson. C. L. Harrington, E. H. Schuyler, Elizabeth Briggs.
St. Francis College, Brooklyn, Brother Paul.
St. Francis Xavier College, New York City, Thos. E. Murphy, J. P. Fagan.
St. John's College, Brooklyn, Edward A. Antill, M. J. Rosa.
St. Lawrence University, Canton, N. Y., John Clarence Lee.
St. Stephen's College, Geo. W. Anthony, Chas. H. Malcom.
Schenectady High School, Emily F. Brown.
Shady Side Academy, Pittsburg, Pa., W. R. Crabbe.
Siglar's Preparatory School, Newburg, N. J., Prin. H. W. Siglar.
State Normal College, Albany, Wm. J. Milne.
Staten Island Academy, New Brighton, N. Y., Mr. and Mrs. F. E. Partington.
Syracuse University, N. Y., Professors Frank Smalley, W. H. Mace, Albert Leonard.
Swarthmore College, Swarthmore, Pa., Pres. Charles DeGarmo.

Teachers' College, New York City, J. E. Russell, Richard E. Dodge
Thurston Preparatory School, Pittsburg, Pa., Marie A. Anderson
Townsend's School for Girls, Miss, Newark, N. J., A. P. Townsend
Trenton Normal School, Edith M. Luther, Sarah A. Dynes
Troy High School, M. H. Wolrath, A. F. Gardiner
Union Classical Institute, Schenectady, N. Y., Arthur Marvin, Aurelia L. Cass
Union University, Schenectady, Pres. Andrew V. V. Raymond, Frank S. Hoffman,
 Sidney G. Ashmore, Edward E. Hale, Jr., Thomas W. Wright
University of Chicago, Chicago, Ill., Dean C. H. Thurber
University of Pennsylvania, Dean J. H. Penniman, Professors John Q. Adams, Edwin
 G. Conklin, Dana C. Munro
University of State of New York, Albany, Richard Jones, Chas. Newell Cobb, Melvil
 Dewey, A. Dewey, May Seymour
Vassar College, Poughkeepsie, Pres. J. M. Taylor, Sarah J. McNary, Sophie C. Neef, A.
 M. Ely, B. J. Bartelmann, Lucy M. Salmon, H. E. Mills, Jean C. Bracy, LeRoy
 C. Cooley, Otilie Herholz, Geo. C. Gow, Elizabeth B. Thelberg, Cora A. Start,
 F. C. French
Vail-Deane School, Elizabeth, N. J., Martha B. Churchill
Wells College, Aurora, N. Y., Mr. and Mrs. W. E. Waters
West Chester Girls' High School, West Chester, Pa., Miss B. W. Darlington
West Jersey Academy, Bridgeton, N. J., Phoebe W. Lyon
Wilson College, Chambersburg, Pa., Mary F. Hurburt, Adelaide B. Ventres
Wilson and Kellog School, New York City, H. S. Kellog
Women's College of Baltimore, J. B. Vanmeter
Yonkers High School, Yonkers, N. Y., Thomas O. Baker

OTHERS PRESENT

Binghamton, N. Y., R. H. Halsey
Brooklyn, Miss Harriet Jencks
East Orange, N. J., Helen F. Cooke
Ithaca, N. Y., George Winfield Scott
American Book Co., New York City, J. R. Fairchild
Macmillan Co., New York City, Frank Wise
New York City, F. E. Hodgdon
Philadelphia, Theo. Pershing
Port Richmond, N. Y., A. V. Jones
Poughkeepsie, N. Y., James Winne
Wilmington, Del., Caroline Ladd Crew, Linda Belle Palmer

A few others were registered whose names could not be read with certainty.

PROCEEDINGS OF THE ELEVENTH ANNUAL CONVENTION
OF THE
ASSOCIATION OF COLLEGES AND PREPARATORY
SCHOOLS
OF THE MIDDLE STATES AND MARYLAND

HELD AT VASSAR COLLEGE, POUGHKEEPSIE, NEW YORK, FRIDAY
AND SATURDAY, NOVEMBER 26, 27, 1897

ADDRESS OF WELCOME

By PRESIDENT J. M. TAYLOR, of Vassar College

Mr. President and Members of the Convention: It is my honor and privilege to welcome the Association of the Colleges and Preparatory Schools of the Middle States and Maryland to Vassar College. It is the close of the first decade, or the beginning of the second decade, of the history of this association. It marks a forward movement in the great, general educational movement of our country in the past ten or fifteen years. We had been accustomed to regard the child in segments, and, therefore, the education of the child by arbitrary divisions. We have been learning in these years to look for a unity in the work. The New England Association, the Committees of Ten, and Fifteen and the other committees that have been appointed in the East and West, North and South, to consider various educational issues, the Western Association, this Association, all have been movements in the direction of this unity, emphasizing this idea that has been coming to the front, that instead of divisions in our work we are to regard the work as one—one from the lowest school to the topmost branches of the university. Our gathering today is, therefore, significant in this respect, and doubly significant because it has been achieved by the growing force of public opinion. In Prussia it would have been

accomplished long ago by a bureaucracy. In our own country let us be thankful we have no such ; and if our movement is slow, it is yet sure. By coöperation, by intelligence, we are learning the necessities of the situation ; we are learning what we need, as schools, as colleges, as universities. We are placing our emphasis now upon unity. But a few years hence, after we have achieved a few of the accomplishments for which we are looking, we shall be discussing other questions of perhaps deeper import to our educational institutions. Let us rejoice that we have accomplished as much as we have, that at least along some lines we have settled a few questions which are making more satisfactory than they used to be, and more useful, the relationships of the schools and the colleges. At the recent conferences, a year or two years ago, of a few of the leading universities of the country, held with Columbia University, you remember how much emphasis was placed upon a number of points concerning the relations of the schools and colleges. At that time almost nothing was accomplished in the direction of history—it was thought by most—and nothing in the direction of science. At the morning session of this convention we made manifest this—that something has been done toward reaching unity on the lines of history ; and we are all happy to see that the committee has prepared a programme for us at this convention which is also to discuss science for the schools and colleges. So far, then, we have come ; and we certainly may look for larger triumphs for our cause along these lines upon which we have worked so successfully—not least successfully of all, in this association, along the line of the English requirements. I believe it may be said fairly that the requirement now generally looked for in the various colleges of our country has been attained really by the committee appointed by this association.

It gives me great pleasure, therefore, Mr. President, to welcome the association. We wish to place all the resources of Vassar College at your disposal ; and we wish to make your stay as pleasant as possible and produce in you a desire to come again. We are sorry we have to welcome you under such skies ;

but we did not provide the skies. We hope what we do provide will be found acceptable; and we wish to place the institution, with all its resources, for the purposes of this convention, under the control of the president of this association (applause).

RESPONSE TO ADDRESS OF WELCOME

By PROFESSOR J. G. SHURMAN, Cornell University

President Taylor, I have the pleasure of conveying to you the thanks of this Association for the generous way in which you have received us; for the hospitality which you have extended to us; and for the good things which, as we understand, you still have in store for us.

It is a peculiar pleasure to all of us to come to Vassar College, the oldest college for women in the English-speaking world; a name, therefore, which, in the history of education in this country, will in future centuries be associated with Harvard College as the oldest college for men in the country; and it is especially agreeable to be here at the present time, when the institution has reached such an unexampled height of prosperity; when you have all the students that you can provide for, although the standards of entrance and of graduation are higher than ever before. I congratulate you, Mr. President, on this auspicious situation of affairs; and I am sure I voice the sentiments of the convention when I say that we feel the president of Vassar College has had a good deal to do with this admirable result (hearty applause).

Now, ladies and gentlemen of the association, let me say a single word in explanation of our programme. It was felt by the managers of the convention, the omnipotent executive committee (of which, for the time being, the president has the honor to be a member), that we should this year indulge not in disputations on matters which are not as yet settled; but that we should endeavor, after so many years of discussion, to bring together in a single harvest the consensus of opinion with regard to these great subjects which, from time to time, have been under our consideration; and so you notice that the subject is:

"What is the present consensus of opinion as to the most important problems in preparatory and collegiate education?" It is arranged that this theme shall be discussed: first, by the head of a college; next, by the head of a preparatory school; and after that there will be discussion by gentlemen whose names you will find on the programme, and also, it is hoped, by others.

The first two speakers will be limited to half an hour each. Those who take part in the discussion are allowed only ten minutes each; and it is the wish of this committee, to which I have referred, that the president should enforce this rule very strictly. And so, without further preliminary, I have now the pleasure of presenting to you President Isaac Sharpless, of Haverford, who will deal with the subject from the college point of view, and whose theses you will find in print on the second page of your programme.

WHAT IS THE PRESENT CONSENSUS OF OPINION AS TO THE
MOST IMPORTANT PROBLEMS IN PREPARATORY AND
COLLEGIATE EDUCATION?

By PRESIDENT ISAAC SHARPLESS, of Haverford

The qualifications I possess for this service, according to the committee which appointed me, seem to be ignorance of the present condition of affairs as regards entrance requirements in the controlling universities, and gross uncertainty as to what should be done for the future. The first will enable me to narrate without any prejudice matters of fact. The second will permit me to express my doubts in so persuasive a manner as to compel conviction.

The most recent authoritative literature on the subject consists of the reports of the Conferences on Uniform Entrance Requirements, held during the first half of 1896, of six large universities and the associated schools, and the published statements of certain of these universities concerning their special requirements for the future.

The changes enumerated will begin to take effect in June

1898. There seems to be no doubt that their consequences will be important and far reaching.

Hundreds of teachers have read these reports, and scores of schools have already modified their curricula and their methods of teaching to conform to them. There have been renewed efforts to make the school courses yield power rather than knowledge, systematized knowledge rather than isolated knowledge, the development of judgment and habits of good thinking rather than memory. Reënforced as these recommendations will be by examinations given in conformity with their precepts, it is not too much to say that a beneficent revolution will be brought about, affecting first the college preparatory schools, and through them, on one side the other secondary and the primary schools of the country, and on the other the colleges not included in the inner circle of the six. It will take a little time to make the necessary adjustments, and it is not too early to begin.

In a general way the changes are in accord with what every one who appreciates the demands of real education must approve. They deal with the intellectual habits of the individual student rather than with the preparation of definite textbook work. They encourage sight reading and conversation in foreign languages, abundance of laboratory work in science with accompanying notebooks, systematized parallel reading in history, and the attainment of power everywhere. When we add to them the reforms already practically triumphant in the teaching of English, they point to a better day than America has ever seen in the matter of secondary education.

When one for the first time examines these innocent looking reports, side by side with the published requirements of the ordinary good college, they do not seem to necessitate any considerable advance of age or preparation. Something is said about *minimum* requirements, and the demands made seem elastic and adaptable, so that it might be supposed that they would leave the subject about where they found it, as to amount required, each college taking what it chose, and that the only

effect would be to encourage the right sort of teaching and uniformity up to a certain point. These effects they will undoubtedly produce, and these are their blessed fruition. But these are not all.

It may be that all the universities represented in the syndicate did not expect any other results. Indeed there is reason to believe that some connected with the movement were surprised at certain visible consequences, and were engaged in stoutly maintaining the virtues of a low standard of admission while requiring a high one.

But for some reason the reports were found to contain the germs of consequences other than uniformity and good teaching. When the schools were told that they must teach languages to provide for sight translations of considerable difficulty, mathematics to give power to work out rather intricate problems of algebra and geometry, history so as to read all around the era studied and know its causes and consequences, and so on through all the list, excellent as they recognized these things to be, they found it indispensable to have more time. They were not generally loath to take it. It gave them another year of interesting and profitable work. Already some schools have added or announced an additional year, and among the demands Dr. Sachs expects to make is "a fuller allotment of time" for secondary instruction. This is the result concerning which there may be most argument.

The protests which have been filed for a few years past against the advanced age of graduation from college are many and potential. It is *not* a good thing that in order to secure a college degree, a professional education and a small income, a man must wait till he is thirty. It means unwholesome limitation of the educated professional men to the class of the well-to-do. It means, moreover, the omission of the college course in numerous instances. Nor will free tuition and scholarships solve the question, for there yet remain the problems of maintenance and enforced celibacy. The presidents of at least two of the universities uniting in the conferences have forcibly pre-

sented the issue, and the present condition is so unsatisfactory as to find few defenders.

The difficulty is usually supposed to lie in the primary and secondary schools, and in the family and social arrangements of their boys. That these boys do not reach the same stage of advancement at the same age as those of France, Germany, and Switzerland, has been frequently pointed out and is evident by a comparison of curricula. Thus the normal boy of the French Lycée of sixteen or seventeen is reading in Greek, selections from Homer, Sophocles, Plato, and Demosthenes; in Latin, from Lucretius, Vergil, Cicero, Livy, and Tacitus; has a fairly good knowledge of English or German, gained by eight years' study, and an excellent one of French, knows pretty well his algebra and geometry, plane and solid, and has made considerable study of at least one science. In short he is ready for a good American college. His American brother of the same average advancement is two years older.

The causes of the difference usually given are various. The simpler system of weights and measures saves time for the French boy, as well as the simpler spelling of the language. These advantages can hardly, under present conditions, be realized in our schools. More potent are, probably, three other causes:

1. The French curriculum is the work of the best experts of the nation. There is no duplication. The different parts supplement and support each other. The gradation is perfect, and the boy passes, without break and with a thread of continuity and relationship weaving all the courses together, from the kindergarten to the university.

2. The French teaching is trained teaching by selected teachers. They have all learned something, at least about elementary ideas of teaching. All crudities and great weaknesses are weeded out in their excellent normal schools, which prepare their teachers most efficiently for the work.

3. Education is a more serious and important thing than with us. The school day lasts from 8:00 to 5:30 o'clock, five and

one-half days in the week, and about 220 full school days in the year. The length of a college preparatory year about Philadelphia is from 160 to 170 days of four or five hours each. Two French years are equivalent to three American years in time and energy given to intellectual education, and, I presume, in intellectual progress.

It may be said, and I suppose with truth, that the American boy gains physical, social, and moral advantages denied to his more closely worked French brother. I do not gainsay it; I only ask whether our material is of such tender stuff that it needs 200 holidays out of 365 in a year; whether the shortening of school terms has not gone on out of all proportion to the legitimate demands of the boy; whether, without sacrificing health or reasonable sport or social development or any other proper diversion, we might not make their intellectual pursuits in the minds of our preparatory students (and, indeed, also college students) a more serious part of life to which other interests should be sacrificed.

I have been told that in Russia there are 180 legal holidays in a year and that it requires a Russian workman one day to recover from the dissipations of each legal holiday. Is there anything suggestive in this as to the condition of some educational institutions?

It is true that a school without physical or other outside organizations and ambitions is not usually a desirable school, and, moreover, might not be in this country of the all-powerful boy a popular or profitable school. But I would like to do something to rescue and exalt the really ambitious and promising student from the herd of athletes and musicians in which he is now lost. I would like to make it felt that the real hero is the intellectual rather than the physical leader, and that the much maligned "grind" is, in many cases, the boy with a future. Will not this be in the long run to the great advantage of athletic interests with which I am in great sympathy? Nothing ever prospers permanently by being exalted into a place to which it has no title.

In this connection I think someone needs to say a word about the lack of intellectual ambition which seems so conspicuous in many young men well prepared for college. Instead of an eagerness to occupy a fascinating field just opening before them, a keen appreciation of the nobility of the possession of the culture and knowledge which may be theirs, there is evident, and I judge from no single college, a disposition to consider that the battle has been won in the passage of the entrance examinations and that now they are to have their reward in the social and athletic activities of college life. A certain amount of this is unavoidable, but, except in the case of those students who come from isolated country schools under great stress of poverty, it is lamentable to see the indifference with which many excellent students regard their intellectual opportunities. Many recover in later years, but time is lost and enthusiasm frittered away before the recovery begins. May it not be that the energies of the teacher are, almost inevitably with our present arrangements, too exclusively employed in technical preparation, which destroys interest and is the foe of exalted ambition; and that the colleges too suddenly throw upon the boys a liberty for which they can have no previous training.

Theoretically the certificate system was to destroy this evil. It was believed, and in many cases rightly, that the preparation for an external examiner, the endless grind over old papers, the years devoted to the object, not of securing an education, but of passing an examination, were fatal to generous enthusiasm and would create a contentment with poor achievements when the goal was reached. Today I believe we are suffering from this evil in a serious form. The certificate system, however, as often employed, has probably proven itself to possess other evils scarcely less serious. It has so often fallen into deserved discredit that some colleges which have adopted it are finding it necessary to change, preferring not to encounter the reputation of opening an easy way into their membership. If, therefore, the examinations conducted by outside bodies are inevitable, would it not be well to place the most stimulating men in con-

tact with the boys during the last school year and first college year.

I certainly have no disposition to cast the whole blame for this state of affairs upon the schools. The colleges have, probably, an equal share to be responsible for, and the social ideas of the patrons a still larger. It is they who demand the long vacation, the extravagant devotion to athletics, the provision for a "good time" at school and college. The rule of the boy in many families in such cases is absolute and neither parent nor school is able successfully to resist. But if we know what is right from an educational standpoint, we need not keep quiet because the case is difficult. If we see clearly the causes of the intellectual backwardness of the American boy we are untrue to our duty if we do not proclaim it. We may be sure that such protests are not wholly unfruitful.

If, however, the long vacations are inevitable, we ought to have more summer work for those who do not wish to waste so much time.

But this is a digression. We were saying that the remediable causes of the loss of time in secondary schools were ill-considered curricula, untrained teachers, and short terms. The first is yielding to the treatment of the Committee of Ten, the advice of university faculties, and the associated wisdom of the schoolmasters; the second is also mending; the third, so far as my knowledge goes, is as bad as ever. As a net result there is a gradual recovery and many boys go into our highest colleges at a reasonable age. We all know individual cases of average boys being well prepared at sixteen and seventeen, just enough cases to make us believe it is quite possible in many more, and Harvard University, which has not materially altered its standard for some years, finds that the average age of admission has decreased from nineteen years, seven months, to eighteen years, nine months, between 1889 and 1895, and in the latter year eighteen were admitted under seventeen years of age.

But the movement has not gone far, and eighteen and one-half is still the average age of admission to the best colleges of

the Eastern states. It does not seem to have deterred entry. The large universities are rapidly growing, and college students the country over have increased between 1872 and 1895 from 23,000 to 82,000, from $\frac{6}{100}$ of 1 per cent. to $\frac{12}{100}$ of 1 per cent. of the total population. This includes, however, a large number of institutions of very low requirements.

Nevertheless, until parents and schools find some effective way to advance their boys and girls faster than they do, the wisdom of adding to their burdens may be seriously questioned.

The six associated universities are out of reach of criticism. They know their own business. Were it not that their standards will have a serious influence upon all other institutions within their limits, which are practically coterminous with the nation (an influence, however, especially strong in their own locality) it would be manifestly improper for me to say a word.

They are not blind to the tendency. The presiding officer of one of them in his last report, after showing conclusively the evils of the advanced age of entrance, as shown in the handicaps upon poor students and the frequent omission of the college course, concludes: "I can think of no other solution than the reduction of the college course as it now exists by one year." Simultaneous with this report appear from the same university increased demands upon the schools, which they immediately construe as necessitating an additional year of preparation. The full effect of both changes will be to give the freshmen year to the schools and make the cleavage between secondary and higher education a year later, or at nineteen and one-half years.

It is on the wisdom of this proposition thus baldly stated, and the consequences which will flow from it, that the discussion should turn.

This is practically the age of admission to European universities, and if the undergraduate departments of our foremost institutions are, immediately or in the near future, to be the counterparts of Oxford and Berlin, we may all rejoice. We will have ultimately in America all that Europe can furnish, and we are approaching the consummation by rapid strides. But we

have been led to consider that in our graduate courses leading to a Ph.D. degree we would find our real university students, and that the colleges, including those with university attachments, are in reality preparatory schools in the case of students whose ambitions demand higher work. If the advancing standard, the proposition to substitute a three years' course for a four, the tendency to make nineteen or twenty the entrance age, are all moves in the direction of the establishment of a few institutions strictly devoted to university work, it only remains for the colleges patriotically to adjust themselves to the new conditions, and bear the evils of the transition as placidly as possible.

Indeed, this is what we are probably coming to. It is true Harvard announces officially, "In framing the new terms of admission of Harvard College the faculty does not intend to increase the total amount of work required in preparation;" it is true, moreover, that the addition of the year simply places other of the universities side by side with Harvard in the matter of requirements; and that the general expression of dissatisfaction with the advancing age of graduation will probably prevent further movements in this direction for a time at least. But just as the best colleges have found it desirable to do without preparatory departments, so the best universities will find it desirable, when they can afford it, to give their energies exclusively to university work and omit at least the lower classes of their undergraduates who need juvenile care and training. Many schools will, of course, then feed the universities directly, but a place may also be found for the pure college.

Whether the time has now come for the college to appropriate this place by setting up its own standards, making its own relations upwards and downwards, is, it seems to me, an open question which may properly be answered differently by different institutions.

I am not speaking for the weak colleges, small by reason of their weakness, having a shifty policy which must by all means get some students in order to exist, but of those colleges with sufficient resources of funds or friends, and a sufficiently loyal

constituency to be able to determine to some extent their own future. My idea of such a college is one which takes boys from good schools, by rigid examination or certificates, at sixteen or seventeen and maintains a standard not greatly different in amount of requirements from the present standards of the good small colleges of the Eastern states.

I suppose such colleges would be, in one sense, anomalous institutions; that there is nothing similar in other countries. They do work, which, at least in its lower years, is elsewhere accounted a segment of secondary education; hence it has been frequently proclaimed that there is no place for them, but that the school and the university will in time squeeze them out of existence. Nevertheless, we have them here; many of them are sure to live; they have arisen in response to a real demand; they have performed a useful function and deserve well of the republic. They often satisfy a local or denominational need not otherwise supplied, and it may be that a wise policy will increase their hold upon the public confidence and that the present is their opportunity.

It does not seem unreasonable to me to think that the division of secondary education and the relegation of the latter part of it to a wisely directed college would be the very best thing. The English, French, and German secondary schools hold their boys, roughly speaking, from twelve to twenty. There are many complaints that the discipline necessary for the small boys is irksome, and unprofitable for the older; that the yearly repetition of the regulations and methods of teaching up to manhood becomes enfeebling to the will power, destructive to honest enthusiasm and produces an unhealthy rebound during the first university year. If the latter half of the time were spent in a college with the minimum of regulations necessary to secure good morals and sound *morale*, leading to a Bachelor's degree, with a normal social life, it would be much better; and the question I desire to ask is whether something of this sort is not the best outlook for the small unattached college. Such a college would probably be supported by the following classes of patrons:

1. Many fitting for business, who consider twenty-one the very last year when a young man can be induced to attend to the traditional "sweeping the store" with grace to himself and satisfaction to his employer.

2. Many who expect to take professional courses and who wish the intellectual outlook obtained by college life before narrowing themselves to their specialties.

3. Many of more mature years whose early advantages have been slight, who have mainly been prepared in public schools and by personal effort and who have been awakened, perhaps rather late in life, by a book, a lecture, or a conversation to an intense desire to be educated.

4. Many who, for various reasons, social, moral, religious, or intellectual, prefer to begin their collegiate career in such an institution, following it out in the undergraduate or graduate courses of the university.

It seems that there might be sustenance for a number of small but strong colleges of a lower grade than the universities propose to maintain, which would have their feeders among the secondary schools and, in their turn, supply the ranks of business men and of professional and graduate schools.

But an objection and, in my opinion, a very serious one, will immediately occur to many of you. How can a different standard be maintained for the two collegiate grades?

If the college has a definite constituency of its own with its own preparatory schools, or if a group of such colleges is fed from the same preparatory schools, which send only occasional boys to the larger universities, they can set their own standards, and the place I have endeavored to outline can well be filled. But if a small college draws its students from schools whose main purpose is to feed the higher grade of colleges which necessarily determine the standard, the problem becomes very difficult. If it undertakes to secure the boys a year before the completion of their course it is a procedure which the school will be apt to frown upon, and the public sentiment of the boys, not usually very well instructed, will condemn as being the

resource of a cheap institution to underbid the better neighbors. It will be in danger of receiving the fag-end of the classes — those who are not able or do not wish to take what is supposed to be a more severe and exalted course. If, on the other hand, it admits to the sophomore class, it will produce something of the same effect in the school and will receive all the inconveniences which result to itself from the omission of the freshman year.

These considerations may make it necessary to conform to the higher standard as a less evil alternative. Every institution would have to determine this to satisfy its peculiar circumstances.

But there may be, on some such basis as I have attempted to outline, an honorable and assured future for the college as a separate institution. It is to be hoped that it will accept the basis in a liberal spirit. It must not set itself athwart the spirit of the age and assume to itself the unnecessary responsibility of defending ancient ideas and practices. It must rather, without sacrificing the difficulty and dignity of real education, be very alert to, and very closely in touch with, the demands of its constituency. It does not seem to me for instance, that it is necessary for it to be the special conservator of the Greek language and what is called the integrity of the Bachelor of Arts degree. With Harvard and Johns Hopkins, and Cornell, and Williams and Bryn Mawr giving the degree without Greek the revolution is accomplished. If it be treason they have made the most of it and succeeded. While the amount and quality of Greek in a college may be the best measure of its scholarship there are certainly some students who need a liberal culture and are capable of securing it without Greek who should be, when they succeed, crowned with the degree which now and in past ages stands and has stood for liberal culture.

Such colleges — honest in every published statement, manned by sympathetic and scholarly officials whose main interests lie in the welfare of the students as individuals, equipped with all supplies of books and apparatus their needs demand, drawing their students to themselves by ample provision for and interest

in every justifiable athletic and social function, stimulating intellectual ambitions which will find their natural outlet in the large universities, fitting them by effective training for successful careers in these universities—such colleges have certainly a place of no small importance in our American system.

THE PRESIDENT: Before calling up the next speaker I desire to make an announcement: there are two committees to be appointed by the chair; one is the committee on nominations and the other is the auditing committee. I would appoint as members of the committee on nominations the following persons: President Sharpless, of Haverford College; Principal Randall Spaulding, of the High School, Montclair, N. J.; Professor J. H. Robinson, of Columbia College; Dr. J. G. Wight, principal of the Girls' High School, New York City; Miss Salmon, professor of history in Vassar College. These five persons constitute the committee on nominations, and they meet at the summons of Dr. Sharpless.

As auditing committee I would appoint Professor French, professor of philosophy, Vassar College, and Professor Moore, of Colgate University. These gentlemen will confer with the treasurer, Professor Kieffer.

I have now the pleasure of calling on Dr. Julius Sachs, of New York City, who will present the second half-hour paper.

WHAT IS THE PRESENT CONSENSUS OF OPINION AS TO THE MOST IMPORTANT PROBLEMS IN PREPARATORY AND COLLEGIATE EDUCATION?

By DR. JULIUS SACHS, of New York City

Amid the constantly shifting conditions that prevail in the relations of colleges and secondary schools, the representatives of the latter find it difficult to formulate definitely their opinion of a present status. It would be unwise, impossible in fact, to predicate from the momentary aspect that the era of final agreement on vital problems is in sight. Two months ago I should

have been prompted to say that though various differences have not been entirely removed, it would be impolitic to exaggerate these differences, and that the trend toward unification was obvious and irresistible; before this association in particular, that has been most hospitable toward every discussion that aimed at a thorough correlation of secondary and collegiate studies, the occasion to make such a statement would have been particularly agreeable. But the outlook has been strangely obscured, and the last few weeks have brought us in the definitions of its requirements issued by Harvard College the prospect of so many new complications that the satisfactory adjustment of the burning questions seems further removed than ever. Is it actually impossible for the colleges to agree upon certain qualifications that all entering students should possess? Do these petty modifications in the requirements insure a peculiar quality of mind in the candidates for one college which those called upon to meet other requirements do not possess? If not, why the demand to secure these minor differentiations which involve on our part so constant a waste of energy?

But it would be unfair to this assembly to dwell at any length on proposals that have not yet been made actually operative; our task today is one of criticism on methods that have been on trial, methods whose practical outcome we feel we are now entitled to gauge. Five years have passed since the movement was initiated that produced the report of the Committee of Ten, with the reports of its nine subcommittees; is it fair then to ask, What is the status of secondary education today? How have the various propositions looking toward improvement been received? To what extent have they affected actual teaching? What is the general outlook for the future? Questions of this kind have been constantly present to our minds within recent years, and in considering them earnestly, many of us, I am glad to say, have outgrown the narrow conception that a record of successful entrance examinations on the part of our pupils is *our* highest ideal; we have become convinced that the *test* may take care of itself, may be looked upon as an *incident*, if our work has

been planned on broad, rational, effective methods. And here I touch upon the first serious question: Do the college requirements, in so far as they are the outcome of recent discussions, enable us to make our secondary work broad, rational, effective or have they in certain directions embarrassed it?

I shall specify three different directions, in which it seems to me that we are at present laboring under great drawbacks. In our classical work, because of the threatening supremacy of the sight translation test. You all recall the old method of classical study that the new test was intended to replace; how the student, despite his dictionary and grammar, toiled through his texts, in his attempt to work out a translation, how he reviewed it, committed it to memory, and withal, untrained to make his inferences from analogy of form, from skillful grouping of related word stems, had gained but little experience of Latin and Greek sentence structure. A new generation of classical professors demanded power, an earlier insight into the genius of the language, ability to put the specific knowledge previously gained to immediate use on new and unfamiliar ground. The value of the new method is unquestioned, and the Latin subcommittee of the original Committee of Ten, aiming to indicate its belief in the value of the sight translation method, supplemented a somewhat full discussion of the subject by the following resolution:

"(6) While the conference does not find itself yet prepared to declare that translation at sight, from Latin into English, and from English into Latin, without examination upon the ground previously gone over, constitutes a complete and satisfactory test of the student's knowledge, as well as of the power he has gained, it strongly recommends that such twofold translation at sight form a constant and increasing part of the examination for admission *and of the work of preparation.*"

As a member of that committee I cannot but regret that this resolution, which had been worded with extreme care, because of the important point involved, has been loosely interpreted to give unqualified support to sight translation as the most satisfactory method of preparation in Latin and Greek. Nothing

was further removed from our thoughts; in many parts of the country, in many excellent schools and colleges, little or no value had previously been attached to sight translation; we urged its importance; it was to form a constant, an increasing part of preparation; we were not prepared to declare it a complete test at examinations of the pupil's knowledge and power, and we never dreamed of assigning it a preponderating influence *in the work of preparation*. Yet such has been the current inference as to our attitude; and there seems to be developing an alarming tendency to subordinate all other phases of classical study, however valuable, to the acquisition of this one faculty. Such a course is extreme, is irrational, is sure to weaken that thorough appreciation of the classical spirit which can only be attained in a connected study of a literary work of art. The experienced teacher recognizes in this one-sided cultivation of sight translation an excess, similar to the unbridled enthusiasm for the natural method that ran its course some years ago. As an *exclusive test* of knowledge of the classical tongues, translation at sight has been distinctly disappointing at Harvard, that first championed its value; that university's most recent official utterance is specific on the point of making it *one* of several tests; it has become imperatively necessary to put forth a plea for close, detailed, analytical study of certain selections from the Latin and Greek authors. Incidentally, let me refer to the mischievous conclusions to which this sight translation test has given rise. The judgment on the defective English of entering candidates into the same university has been based mainly upon the extempore translations from Latin and Greek; many of us have marveled at the pedagogical judgment of classical professors who countenance the adverse criticism of the English obtained from students under such circumstances; one might have expected them to appreciate the difficulties clearly set forth in the report of the English subcommittee, in the following words: "The admission of a student to college so far as English is concerned, should be made to depend largely on his ability to write English as shown in his examination books on other sub-

jects. If the candidate's translations from foreign languages are used for this purpose, the examiner should remember that vagueness and absurdity in such translations often result from ignorance of the foreign language, rather than from imperfect knowledge of one's mother tongue, and that, further, the art of translation is a very difficult art even to a writer who is at home in both the languages concerned. A student who in general writes well enough may, from either or both of these causes, appear to very poor advantage in an exercise in translation."

To sum up briefly: It is unnecessary to make sight translation the one supreme aim; even now earnest teachers secure the desirable skill in sight translation without sacrificing the other valuable factors that enter into sound classical training.

A more serious problem is that of history teaching in secondary schools, and I must refer at some length to this subject notwithstanding the special consideration of this subject in the meeting of this morning. I repeat, this is a more serious problem because all suggestions looking to improvement involve the demand for additional time, which, it would seem, history *must* not claim. Setting aside just now the question of time allotment, which shall receive due consideration at a later stage of this paper, what knowledge of history do high-school graduates and students entering college possess? and what knowledge could be expected of young men and women at the age of seventeen and eighteen? Surely the bare skeleton of Greek and Roman history, on which our entering college student has crammed, or the alternative of English and French history, as taught in most of our high schools, is not a sufficient attainment for students of that age. Consider that history deals with topics far more interesting to youthful minds than Latin or Greek or mathematics; that it is in the highest sense a humanizing subject, that the lessons gained from the past experiences of the race suggest without any formal comparison interesting views on the motives, the character of men, past and present, and you will say that to furnish copiously from the storehouse of general history material for such interest should be one of the highest aims of secondary

education. It is injudicious, I take it, to substitute for a comprehensive study of history in the secondary schools the consideration of one or two nations, because of constitutional tendencies in their organization, similar or opposed to those of our own country; considerations like these are properly the basis for later and more refined judgments. It will be seen that I plead for the simple knowledge of facts, and believe that the inferences as to character, motives, operations of the mind must not be *formally* drawn, must rather suggest themselves. It is a cardinal point this, in which I cannot but feel that the history report of the Committee of Ten presents an aspect of the case which is that of the college and the university, rather than of the secondary schools. *Facts* receive but scant courtesy in that part of the report which deals with the usual objects of historical study. Facts, dry facts, are pronounced the least important outcome of historical study; the value of detached historical facts is regarded as but small, they are emphatically declared to have no more inherent value than digits in arithmetic; they are only means to an end. The committee lends its formal approval to the statement of a teacher of history who says: "I have no time for dry facts; I give my children only life." Now, historical facts are not dry, unless the teacher be dry; but whether dry or not, they must be the basis of historical study; they must be acquired extensively, fully, at that period of life when the power of acquiring information is at its highest development. To put it plainly, the time of life up to the completion of the secondary school is peculiarly adapted to the assimilation of facts; and not until this great body of material has been absorbed ought any process of criticism to be undertaken. The plea for an increase in the elementary historical knowledge of students cannot be made too vigorous, for here is one of the most vulnerable points in our educational system. The obvious lack of historical information which our nation as a whole reveals, and which is so painfully apparent in our newspapers, in the utterances of our public men, does not admit of a remedy within college and university halls; it is a curious commentary

on the injury caused by an early deficiency like this that even the researches of some of our historical specialists suffer from the lack of general historical perspective. The demand for a well-systematized course of *general history*, of the *facts* of general history, seem to invite an arrangement somewhat like the following: Our own national history ought to be the *starting point*, the pivotal point, as well as the *goal* of our secondary work in history. The youngest of the great nations of the world owes it to itself to inculcate into the minds of its children, to what degree and in what particulars it has been shaped by the doctrines and the actual struggles of all its predecessors. The modification, therefore, of the eight-year scheme, as it was proposed by the history committee, would involve a succession of history lessons in which our national history is introduced at three different stages of the curriculum:

Narrative history, mainly of a biographical character for the first three years.

1. American colonization, independence.
2. Greek and Roman mythology and biography.
3. Mediæval and modern history.
4. United States history, by comparison with England.
5. Greek and Roman history.
6. Mediæval history to Reformation.
7. Modern European history.
8. American history since the adoption of the constitution. Civil government.

From the sphere of secondary work in history, this scheme completely excludes one subject that has been strongly favored by the several History Commissions from whom we have heard in recent years; that of the intensive study of some one period of history, to occupy the last year of the course; its aim, if I use the very words of the committee, is "to apply on a small scale the kind of training furnished by the best colleges; it will teach careful examination and comparison of sources and it will give the pupil a practical power to collect and use historical material." No recommendation more unfortunate for the general scheme of secondary historical work can well be conceived. It

proposes to curtail by an entire year the acquisitive period of historical study, and it substitutes with a strange perversity what thoughtful teachers must declare a hollow pretense, a delusion, a waste of effort. To impose upon immature secondary pupils a method that college students in their earlier years cannot be expected to employ, strikes one as both useless and pernicious; pernicious for this reason chiefly, that it breeds in the ignorant pupil the belief that he is carrying on original work, whereas he is simply going through the motions in a perfunctory manner. The proposition smacks altogether too much of the catch-phrases that have gained favor in certain educational circles to the effect that even young pupils must create, rather than acquire. One is tempted to ask: Is the accumulated experience of generations of thoughtful students to go for naught? Is the halting rediscovery of facts and principles long since known so valuable an educational agency? Contrast with this false conception the incisive and authoritative utterance of the Natural Science Committee, in the report of the Committee of Ten; that in the instruction in physics and chemistry it should *not* be the aim of the student to make a so-called rediscovery of the laws of these sciences. The History Commission out-Herods Herod when it demands for the secondary course what it calls a laboratory method, one which the staunchest advocates of laboratory methods repudiate.

Despite these two serious flaws in the suggestions for improved history instruction, a lack of appreciation for the value of facts on the one hand, and the advocacy of premature attempts at research, the secondary teacher may consider the inspiration that has come to him from the report of the Historical Committee one of the great gains of this decade; most valuable, perhaps, is the modification of our school programmes which it proposes and which to me seems as rational as our prevailing method, sanctioned by tradition and habit, seems irrational. It deserves our serious consideration for a few moments. It has been the approved arrangement in our high and secondary schools to *mass* instruction in certain subjects within

a few years by assigning a considerable number of recitations to them within this period. The History Commission bases its conclusions on the valuable results attained in other countries by the opposite method, and recognizes that this system of short courses with many exercises per week prevents assimilation of the matter; that the continuous pursuit of history, even with two recitations per week throughout almost the entire school life, is productive of more permanent gain. The objection usually urged that the variety of subjects entails distraction of the pupil's mind is invalid; it has been disproved by the experience of every other country; it disappears, when competent *teaching* replaces the solemn ineptitude of the average class room, and the slavish devotion to the language of the text-book. Would that the importance of this observation of the Historical Committee had so impressed the original Committee of Ten, as to influence their construction of practical programmes!

But the difficulties and doubts in the problems of classical and historical teaching pale altogether before the vexatious question of our teaching of English. From present indications we shall reach acceptable working methods in every other branch of secondary training *earlier* than in the teaching of our mother tongue. To some sanguine minds the comparative ease with which the various commissions on the study of English reach agreement as to the requirements of college admission meant a prompt adjustment of the difficulties involved in the *teaching* of this subject. I hope that this confidence is not too widely spread, that our own committee on English and their co-workers in other organizations recognize the herculean nature of the task, and feel that their lists of books and their suggestions as to the handling of them are the merest tentative effort to secure a minimum requirement from the schools. They insure by their recommendations that youths at the completion of their secondary and high-school courses shall not be absolutely devoid of knowledge of their own language; they have devised a means of *testing* improvement; they have been far from indicating a consistent mode of bringing about improvement. Assume for a moment

that the eight or ten books recommended for reading and study could be ideally graded (an outright impossibility, for literary works have a purpose of their own, and are not created as educational agents); yet the reading of these books cannot insure ability to use the language successfully as a vehicle of thought. Here is a task for a permanent English commission to reform our whole elementary and secondary system of instruction in the vernacular. As far as the community at large is concerned, our own language is the only means of expressing thought, and it is only *when* we have thoughts to express that the legitimate purposes of language are met. The reform in the English department means nothing less than the extirpation of the slovenliness in speech *and in thought* that is now the most marked feature in our popular education. It is obviously insufficient to demand merely a closer formal study of the language; language must operate upon something of intrinsic content. We all realize that mere digital facility does not insure satisfactory interpretation of music; neither will the mechanics of grammatical accuracy, the cleverness in employment of rhetorical figures, nor the skill in paragraphing, ever produce a satisfactory exposition of thought. It should be the task of our English commissions to remodel the whole of our English teaching in primary and secondary work; keeping in view a twofold aim, thought-stimulation as the *basis* of the new scheme, and expression as its logical and necessary *adjunct*. Here, as at all other points of the educational scheme, the prospect of great improvement is intimately associated with a question of intellectual honesty; unless we frankly admit our tremendous shortcomings, and cease to flatter ourselves that we are accomplishing all that can be obtained, the chances of regeneration are slight. Let us rather note what *is* attainable elsewhere; and if the experience of other nations points the way to the development of a system that will insure a mastery of the native language in form and substance, let not a mockery of patriotic impulse prevent us from profiting by such experience. I do not hesitate to urge upon the consideration of our teachers the study of the methods of the French

schools. Here is a model of what is attainable by a well-balanced course of language work; it is well known that the French language course produces a greater degree of average excellence than does the more elaborate and more scientific method of the German elementary and secondary schools; this model is more likely to meet the needs of our general scheme of education.

The French system is so pronounced in its enunciation of its central purpose, that we who have never undertaken to establish a central principle to which all the rest of our work must be ancillary may well afford to observe the method of application. The educational authorities of France recognize that clearness of expression and clearness of thought are the fundamentals of any mastery in style, and they concentrate their efforts upon securing effectiveness in this direction; the successful issue in the case of the pupil hinges upon the possession of the same power in his instructor, and clearness is the main requirement of the French elementary teacher as of the professor at the Sorbonne. Nor does clearness preclude depth. It is a gratuitous assumption that attention to formal excellence involves a sacrifice of close reasoning, or leads to undue love of generalities. The thoroughness of French scientific, linguistic, and historical research in the present generation is as marked as is its uniform literary excellence. But this is apart from our present inquiry; we are considering the possibilities of the secondary-school system. It is a matter of common remark that the average graduate of a French secondary school speaks and writes correctly and *well*, uses the language with a nice appreciation of idiomatic peculiarities, has acquired a keen relish of the masterpieces of his literature. Can we claim the same for our high-school and secondary-school graduates? This is not the proper place to dilate in detail on the methods by which the French attain this inestimable result; except to state that the experience of generations of well-trained teachers has devised a most carefully graded system; the task is so delicately and judiciously apportioned that the primary teacher has as important a part in this mission as the teacher of the highest class in the Lycée.

Governmental supervision, it is true, arranges for such elaboration of details; but if we cannot supply the weight and authority of government commissions, is not this work worthy of the joint efforts of universities and preparatory schools? Here, surely, the judgment of educational experts, directing public opinion intelligently and demonstrating the technical value of training, could advance us considerably toward the ideal pursuit of our language in the schools. And *here, more* than in some of the other directions proposed, pressure from above can be of great assistance. I believe, for instance, more than ever in the efficacy of the plan, proposed by a few of our leading colleges, to close their doors against those who have not learned to use their own language well; the hardship it may create for the first unfortunate victims will soon be obviated; the secondary schools will readjust themselves to the situation; teachers who *will* not teach English whilst they teach history, geography, or natural science must be superseded by those who can appreciate the bearings of the new conditions, and the good work will spread into the elementary schools. In taking this ground I assume that the secondary teachers in this body are animated by *one* controlling desire, to note carefully wherein our shortcomings lie, and to consider how they may be overcome. If our attitude is that of complete satisfaction with ourselves we need not assemble here. We may well adopt as the model of our educational gatherings the methods and the tone prevailing in the great European gatherings of educators; however marked their success, they *never* indulge in self-glorification, but knowing that even the best system must have defects, they proceed to revise their methods and search zealously for every possible flaw. It is in the best sense optimistic to expose mercilessly one's own defects and then strive to attain a higher plane of excellence.

And here, then, I reach what is to me the vital point in this question of the present aspect of secondary education. We must effect a complete change in two important directions. (1) In the matter of the time to be devoted to school work. I am aware

that, as I pleaded for the extension of the history course, for a detailed elaboration of the English schedule, many of you felt prompted to urge the lack of time. I admit, as things now stand, within the present time assignments we can find opportunity for neither a consistent history course nor for an ampler measure of English work. But why accept this arrangement as a finality? It was the outright acceptance of this time condition that vitiated the report of the Committee of Ten. The subcommittees had formulated the needs of their subjects; it was agreed on all sides that they had proceeded reasonably, had not been unduly peremptory or exacting in their demands; it was the general committee's task to weld them into one or more coherent courses; how did they proceed? They acknowledged the correctness of the demands made by each, and yet they mercilessly extirpated certain subjects, destroyed the logical sequence of other correlated subjects, created arbitrary breaks, and chose the alternative of omitting essentials rather than that of making a rational adjustment of the time element, simply because the allotted and accepted number of periods in high-school work was traditionally fixed at twenty, and of these twenty periods but fifteen to be of such a nature as to require preparation. Why did the committee from its unique point of vantage not make a bold attack on this convention of the old twenty-period week, and show the absolute impossibility of establishing a sound scheme, as long as they were hampered by such restraints? It was from the outset futile to fit great measures of educational reform into the strait-jacket of accepted, ingrained conditions; it was idle to perpetuate unsatisfactory methods; far better to have declared outright against any programme of this kind, to have *demand*ed more periods, and then offered on this new basis the several rational combinations possible. There is no reason whatever why twenty-five weekly periods of actual study (I mean study involving preparation) could not be called for; more than this is accomplished in every European country, and our youth, mentally alert, cannot do better than be absorbed more intensely than they are now

between the ages of fourteen and eighteen in devotion to their studies. On this basis ample time will be gained for all that can be claimed of a secondary course. The objection that arises at once in the minds of all of you is this: but those twenty-five recitation periods require preparation—considerable preparation; according to existing methods, almost as much time as the school sessions now occupy; a fatal objection, I admit, if this did not admit of remedy. We must *teach* during our school sessions.

The modern language report closes its discussion with a paragraph startling in its brevity. The worst obstacle to the progress of modern language study is the lack of properly equipped instructors. A little reflection will convince us that the same obstacle obtains in every field of secondary education; here is the root of all our disappointments. The art of imparting information has not yet been successfully cultivated among us. We hear recitations, rather than teach. We have normal graduates who have been saturated with theory, but who lack the essentials of *information*; college graduates with a *modicum* of information, lacking method. If under these conditions really good teachers, sound in attainments and skilled in the art of imparting knowledge, are rare, is it strange? At the risk of your displeasure I must again revert to the European model. European teachers prepare themselves for their work as they would for any profession; the mere fact of college graduation does not imply qualification to teach. With us, especially with our young men, it is often but a stepping-stone to some other profession. We cannot protest too vigorously against this. If we insist strongly on securing the standing of a profession for our work we must not hesitate to demand an unusual effort of those who propose to enter it. It is an encouraging sign of the general advance in the legal and medical professions that the professional training has been made more extensive and more difficult. Not more, but better, lawyers and physicians are to be developed in the future; so too, better trained teachers are necessary if the quality of the work is to be improved; poor

attainments on the part of the teacher mean poor standards of scholarships; let the entrance into the profession be made more difficult, more expensive, because of the longer period of preparation, but it will prove more satisfactory in the end. Just how are we to effect this improvement? So momentous a question cannot be decided offhand; here, however, are two working suggestions. Every normal school should have a one-year course of theory and practice attached, to which none but college graduates could be admitted; the few who have of their own volition adopted this course show the value of this combination; if to the substratum of a college education a year's study of normal methods be added with practice teaching under the guidance of an educational expert, there is a strong presumption that the practice year will reduce the chance of complete failure. Better still seems to me the following scheme: Every teacher of high standing should arrange for a postgraduate teacher's course, in which there should be superimposed upon the general culture courses of the ordinary college a group, say of two major subjects, the history of education and psychology, together with three minors; one of these should invariably be English, the other two the young teacher's special subjects (language, history, science or mathematics); in these the future teacher is to gain insight into the best methods of presentation of the subject-matter. A post-graduate course of this kind presupposes, in the first place, in the body of university instructors men who possess the theoretic equipment that is commensurate to a proper exposition of the philosophy of education; in the second place, one or several men, who, having been successful teachers in secondary and elementary work, are able to crystallize the results of the best teaching into adequate suggestions for the future teacher; the arrangement of subject-matter, the determination of the rate of advance, the distribution of light and shade, according to the relative importance of the theme, are some of the vexatious questions that harass the efforts of the young teacher, and here no theory can supplant the direction of one who has himself experienced the difficulties of a secondary

teacher. Under the special guidance of the expert teacher the aspirant should also carry out in practice during his post-graduate term his practical teaching in some of the local high or grammar schools; criticism of his procedure is then to be given in the seminary of practical pedagogics where the candidate may have an opportunity to defend the correctness of his method or to be enlightened as to its defects. For the very reason that we have no state supervision in our country some high standard like this should be set, and a university certificate, showing ability to meet this standard, is desirable. An approach toward this ideal is attempted in one or two of our colleges, as for instance in the pedagogical annex to Brown University. A weak point in the system adopted at Brown lies, however, in this, that the inexperienced teacher is utilized as a half-pay instructor during this year of special training. The interests of the community that pays his salary and of the university that aims at shaping his mental attitude for his future career will inevitably clash; the probationary teaching should not be productive of salary. I know that all this means an increase in the time of preparation, but it is only thus that we shall secure men and women who, when they assume the responsible positions of secondary teachers, are not at sea in the fundamentals of the work. There was suggested some years ago by some of our most prominent educators, like President Eliot and President Low, a common examination board for entrance into our colleges; for various reasons we do not seem ready as yet for this great step in advance. But it should prove an easier task to arrange for a commission from half a dozen leading colleges to examine teacher candidates. To a certificate issued by such a commission there would attach such weight that it would soon be considered desirable; many of our best academies, preparatory and high schools would be inclined to give the preference in appointments to those approved by this examining board. How much more definite in value such a document would be than the ordinary college diploma or the usual recommendations, issued in a benevolent spirit by the members of the college faculties! All of us who have been

obliged to engage teachers on the strength of such assurances know that in view of the lack of definite standards, each selection is in the nature of a lottery. Is it not here, where the colleges should most effectively coöperate with us? Their work calls for students capable of following them intelligently; they can only secure them by aiding *us* in a general amelioration of the earlier processes of education. For this purpose we need their support in the inevitable struggle against popular indifference or prejudice, that thus far fails to appreciate the value of elaborate preparation for the teacher's career, and is reluctant to pay for it when found. It is obvious that the mental calibre of the secondary teacher determines in great measure the success of college work, and we teachers of the present cannot testify more effectively to the pride we take in our calling than if we invite discussion in these joint deliberations on the methods necessary to rear a body of teachers superior to ourselves.

DISCUSSION

By PROFESSOR HENRY B. FINE, of Princeton University

Mr. President and ladies and gentlemen of the association. It is difficult for one while listening to Dr. Sharpless and Dr. Sachs, not to agree to every thesis that each of them defends, but I am sure that the question must still remain in the minds of some of you whether, after all, it is possible to accomplish, with our present force of teachers, with the present equipment of our schools, what Dr. Sharpless very properly insisted should be accomplished (*viz.*, that boys should be fitted to enter our colleges at seventeen years of age at most), and yet do all in the preparatory years which Dr. Sachs insisted must be accomplished there (laughter). It seems to me, judging from my own observation as a college professor at Princeton, that it must be a very difficult thing indeed. There is an enormous difference between the best and poorest men in a class, as it enters college, in respect to real fitness for college work. It is due, in part, to differences in natural ability, but it is quite as often due, as the subsequent careers of the students show, to differences in preparation. The real desideratum is an improvement in the *quality* of the preparation of the great body of the boys who enter college. It is of vastly more importance that

thoroughgoing work should be done in the limited number of subjects at present required than that this list of subjects should be extended (applause). I should, therefore, advocate a more complete differentiation of preparatory work. The boys who are to take the old-fashioned classical course should be separated early from those who are to take the scientific course, and from those again, who are to enter business when they leave school, and the time be secured, at whatever loss to other studies, to really prepare them in their Latin, Greek and mathematics. If that can be accomplished and elaborate courses in history and the sciences added, well and good. But if, as I fear, the actual result would be a poorer preparation in the classics and mathematics, the student had better, a good deal, postpone the systematic study of history and science until he is ready to undertake it in his college course.

I am sorry to say that I cannot speak from observation with regard to the value of preparatory work in history. I can, however, with regard to such work in the sciences say, it has been our observation at Princeton that, almost without exception, the men who have distinguished themselves in physics and chemistry are the men who have never studied physics or chemistry until they have reached their junior year in college. They are the men who have ranked highest in their classical and mathematical work in the freshman and sophomore years; in other words, the men who have got the full benefit of their classical discipline.

Do not understand that I am not willing to grant that excellent discipline may be gotten out of other branches of study, as science, or history, or modern languages, if done with the same thoroughness. That is not the question which I am raising. I am making a plea for a much higher *quality* of work in the subjects required of each boy in the preparatory schools. I don't believe that many boys can do first-rate work in the classics and mathematics, and history and science, and the modern languages in the preparatory course and enter college at seventeen years of age, at least with our present school equipment and our present force of teachers. I therefore have great misgivings as to the wisdom of extending the preparatory curriculum, which all boys must take, much beyond its present limits.

THE PRESIDENT: Those of us who live in New York know something—ought to know a good deal—about the regents,

and the admirable way in which their office is run. I sometimes, myself, liken the secretary to Socrates, who said, you will remember, in his "Apology," that he was "the gad-fly God had given to that noble steed, the Athenian state, to sting and stimulate it into healthful action." I sometimes think that Providence has been equally kind to the state of New York—to her educational organism—in presenting it with Mr. Dewey (applause). You will now have the pleasure of hearing him. I wish I could assign him more than ten minutes, but I dare not; yet there is this consolation: he can say more in ten minutes than any other man (or woman) in this association!

DISCUSSION

By SECRETARY MELVIL DEWEY, University of the State of New York

It was said last year, at our meeting in Philadelphia, that the great demand of the day was for quick transit in education. I do not believe it. In this state there is a compulsory education law and children are protected in their right to leisure for education by raising the age of labor so that you cannot lawfully employ children under fourteen. On all sides labor-saving machinery creates new leisure. There never was a time in the world when educators ought to say so strongly that there is no need for quick transit in education. Perhaps we should say "we want *more* transit, not quicker." We go into the professional and technical schools too young. There is a notion that for a young man the gardener's rule is good, "Cucumbers are old enough as soon as they are big enough" — as soon as the boy has attained his physical growth he can assume the most responsible functions of life.

President Sharpless' theses spoke of the undue amount of time given to vacations and holidays. Recognizing that school work is getting onto a kind of double-chute basis, the students are either going into a holiday or emerging from one most of the year; the regents have made a rule that a school that will not maintain its sessions for thirty-six weeks of five days each, allowing for legal holidays, shall not share in grants from the public money; and we had to notify a large list of schools the other day that it was impossible to draw their checks because they had failed to teach 173 days, or less than half the year. I appreciate the value of long vacations. It is human nature for edu-

cational workers to want them and this personal interest may warp the judgment a little. But certainly, if our young men can safely work fifty weeks out of fifty-two in the stress and strain of modern business, it is not too much to ask those who have the benefits of the immense endowments for higher education to give half the days of the year to their chosen work.

I stand for higher standards but must often protest against raising the standards. That may sound a little paradoxical. In my judgment this body made a mistake last year in passing the resolution that said in substance that no college entrance requirements were too high. From the standpoint of the American college that resolution looked to me like a broad and pleasant path, attractive at the beginning, but soon winding round to a convenient place with every facility for the small college to commit hari-kari. The promised opportunity to discuss the resolution was not given, so that I lost the opportunity of pointing out what occurred later to many of those who voted for it. The logical result of that resolution in the present condition of education means crowding most of the colleges out of the American educational system.

We have been making very rapid progress in this country in the past decade in developing the great American university. I doubt if any one is more proud and glad than I to see this development, or more willing to aid in helping its further growth. Our universities will be properly the radiant crown of our whole educational system, but I believe it is a mistake while we gain the university to lose the college. Let me repeat briefly what you all know. We have five distinct teaching institutions in our American system—elementary schools, high schools and academies, colleges, professional and technical schools, universities. The only one about whose permanence there is the slightest doubt is the college. There are many strong men who believe that its functions are divided between the high school and the university, and that in the not distant future the college ought to and will disappear as a regular factor in the series. A very few of the strongest will become universities; the rest will either suspend operations or become academies. The shortest way to attain this result is for the colleges to keep raising their entrance requirements till they get almost as far from the high school as is the university. If the owners of colts charged for them the same price as for full-grown, well-trained horses, colts would be bought only for experimental purposes.

We are told that the college is going through an evolution, that changes are simply the result of growth. Now growth is admirable till you reach the full development, after that further growth means deformity and often death. I have heard more than one educator say that "there is no such thing as getting the standards too high." Such talk is nonsense. Any wise man knows that a standard too high is sometimes worse than one as much too low. A man raising a flag pole on the theory that there is no getting it too straight is very apt to topple it over and break his pole. He can handle it much better if he stops a little short of the perpendicular rather than have his pole slip by. Because till recently we had no universities in America, our college has been growing abnormally till it is one or two years out of its proper position. It is like a house perched upon jackscrews, and instead of voting "high standards" we ought to let it down again to solid foundations where it can rest directly on the four year high-school course.

May I illustrate by a little fable: A man believed in evolution, in growth—that when a thing ceases to grow it is dead. Well this man built a barn, but instead of putting in stone foundations he placed his sills on the stumps of four thrifty willows which he cut off where they stood conveniently in a square, and on these he put up the barn. A willow, you know, is a vigorous tree and will grow like a public debt, and these four under the corners of the barn began their evolution. They grew, and by and by the roof began to leak, joints opened here and there, but the barn was progressing. It went up. The first floor got above where he could drive in, but he said that the time was coming when he could drive under. The wind blew through the cracks and made the straw bedding rise up all over the floor till it looked like a brood of turkeys with feathers ruffled. Then the willows put out sprouts, and the evolutionist figured that by the time he could drive under the first floor these branches were going to be fine things on which to hang his harness. In some cases we can have too much of as good a thing as evolution.

The abnormal college entrance requirements put the college in competition with the university. The American boy and his father compute the time and cost of getting successfully started in life's work. Short circuits are formed in a majority of cases, so that the students go to the professional and technical school or university direct from the academic grades, more and more of them skip the college training altogether.

We here believe that the best preparation for the university or for life is the education given by the traditional American college. We are anxious that this view should be accepted by the public. With unusual opportunities for observation I am convinced that the college must get back and rest on a four-year high-school course or that in most cases it will eliminate itself from the educational series.

The grammar schools ought to stop with an eight-year course. It is simply folly to spend nine years in acquiring the very elementary reading, writing, spelling and the arithmetic, geography and English alone required for admission to the high school. Then we should give four years to the high-school course in preparation for the college, and there will then be room for four years more rounding out the education of the young before entering on the course in the university which is designed for men, not boys, for specialization, not for general education. The public is rapidly coming to understand that the university is a distinct species and not simply a big college. One might as well claim that an overgrown cucumber was a watermelon. We should build good solid foundations. The university is the top story and should be put on top, not interjected into the structure, endangering the rest. If a college is to be changed into a university it ought not to be done by the jackscrew process, but at the proper time it should assume its new functions and its new name and not have an interregnum when it will simply be a nondescript.

I am not quarreling with the past. My impression is that the move adopted by Harvard was at the time and under the circumstances the best road toward the desired university, but that pioneer work has been done and ought not to be repeated by other institutions. There might be circumstances with hostile and jealous neighbors where a man who wished to add a story to his house would prefer to put it on jackscrews and slyly give them a half turn every night after dark. In time he could finish off the basement and the final result might be apparently the same, but during the evolution he would have neither a high stoop nor English basement house. The floor would be too high to step on and too low to get under. In my judgment it is educational folly for our colleges any longer to follow the jackscrew plan. The aims and methods and needs of the university are totally different from those of the college. I know not which is most to be admired, for the biggest and richest and most talked about is not always the best. My plea is simply that we keep the two institutions distinct in our thought

and our discussions, remembering always that at present every American university except Clark has also a college under the same management, thus helping to confuse the public mind. For the future I am opposed to the evolution of good American colleges into poor universities. They are distinct species. No amount of care and feeding can develop a brook trout into a successful whale.

THE PRESIDENT: The next speaker, who will speak from the fullness of his experience in many states in recent years, in Massachusetts, New York, and Pennsylvania, is Dr. John G. Wight, principal of the Girls' High School of New York City.

DISCUSSION.

By DR. JOHN G. WIGHT, Principal of the Girls' High School, New York

Mr. President, Ladies and Gentlemen: What is to be presented here is to some extent, a mere accentuation of the points made in Dr. Sachs' excellent paper. I would neither add to, nor subtract from, what he says in regard to sight translation.

It is doubtful if, as now constituted, there is room in the college preparatory curriculum for another required subject. If there is room, even after rejecting something already in that course, some additional study of history has the first claim to recognition. Just what this increase of historical study is to be is debatable. Shall it be a superficial skimming over the whole range of the subject, or a thorough mastery of a limited portion? Is there not danger that the too diffuse study of this branch may result in such meager historical knowledge and such unsatisfactory discipline as were experienced under the old régime, when in its entrance requirements the college relied upon the student's voluntary and cursory acquisition of historical information obtained merely in reading the classics? As at present required by the best colleges, preparation in the history of Greece and Rome is one of the most valued studies of the secondary school; while it is beyond question that the most disgraceful ignorance of the college freshmen today is his ignorance of English history. Some colleges in their requirements

for admission allow a choice between the history of England and that of Greece and Rome. Very few demand both. Now that the study of the English language and literature has attained an assured place in the college preparatory curriculum, let English history be duly magnified. To bring this about it is only necessary that the colleges make a demand for it; since in the matter of preparation the colleges get only what their examinations call for. They should demand both the history of Greece and Rome and that of England; and if the required curriculum is already crowded, as seems to be the case, enough work being laid down by some of the colleges to make necessary a preparatory course of five years instead of four, let the colleges decide what is to give way to English history.

It is urged by some with greater zeal than sound reasoning, it is feared, that all other topics of study in the secondary schools should be made subservient to the study of English. This is, indeed, educational idealism. Would that it were realizable! The suggestion, while having some pedagogical foundation, and having on the score of useful training some utilitarian significance, is not sufficiently reasonable to warrant serious consideration. Success is claimed for the German schoolmasters, who connect organically everything taught during a day, a week, a month, or a year. They may with reason treat connectedly the teaching of botany and drawing; but when they add to these geometry, making the leaf outline furnish distinct geometrical figures, the process of "connecting organically" would seem to be unwisely extended. It is puerile to carry this idea so far as to make the reading lesson of the day supply the substance of the day's problems in mathematics, as some propose doing; as when, if the reading lesson is about the surrender at Yorktown, the problem is made to read: If the British force numbered so many, the American so many, and the French so many, what per cent. of the whole was the French force? Making all teaching contribute to a knowledge of English has, to be sure, nothing puerile about it or objectionable from a mere pedagogical point of view; but it is certain to prove impracticable

except as it is attempted on a very meager scale. Every day, and many times a day, a good teacher in any department will correct the imperfect articulation commonly heard in such expressions as "wild beasts," and will point out the proper pronunciation of words, but in the early stages of such a study as Latin, for instance, he will exhaust all his available vitality in efforts to keep the accent away from the *ultima* in oral inflection, in making the pupil sure of the future indicative of the third conjugation, and in fixing numerous other points where accurate Latin scholarship must be perseveringly insisted upon. English may be casually taught in connection with any other subject, but it will be English wholly subservient to the subject in hand, not *vice versa*. The teacher of geometry does not feel called upon to give two distinct ratings of a pupil, one for geometry and one for English. If he obtains from the student a clear and logical demonstration of the proposition, he will be likely to treat as more or less venial such grammatical inaccuracy as is contained in the statement that "the sum of two angles are," though a good teacher would not fail to correct such a mistake to the hundredth time.

There is something to justify the prevailing impression that in this country too small a portion of time is given to school and study; that, when compared with those of other leading countries, our school day, school week, and school year are clearly of less extent than theirs. This difference in great measure accounts for the alleged inferior results obtained in our schools especially when compared with those of Germany. Our shorter school year may justly be charged to climate. Is there, however, any valid ground for maintaining that our school week and school day should be shorter than they are in Germany? As half-day sessions, especially in the large cities where pupils often have long distances to go to reach school, are not likely to be looked upon with favor, the most reasonable way to increase the amount of our school time is to increase the length of the daily session. This increase, to the extent of half an hour, is not unreasonable. As this would give five minutes more to each

of the six recitation periods of the day, and would make the length of the school week in the United States equal to that abroad, it would do not a little to make good our educational deficit. It is, however, probably hopeless to expect ever to make good the disparity caused by the European excess of four or six weeks in the school year. As things are at present, our pupils are with difficulty kept in school until the first of July, and in most private schools this is quite impossible, as it is also impossible to bring them back to their books before the end of September.

The improvement in the quality of the teaching in our schools is a leading educational question, and is likely to continue to be so for some time to come. Another question is, however, beginning to assume importance—how shall we improve the conditions under which the better equipped teacher is to work? *Pari passu* with the better professional training has come the multiplication of subjects to be taught, until the exercises of the schoolroom have become too much the exploiting of the teacher's self, while the pupil, becoming a mere recipient and exercising no faculty but that of absorption, has a tendency to become an intellectual weakling. The teaching of the grammar schools today, where so many subjects require attention, frequently sends to the high school pupils lamentably deficient in power to think and work independently. Probably 75 per cent. of the teachers in the grammar and lower grades of our city public schools have had some kind of normal training. It is safe to suppose that this training has been of a scientific character. If, then, its results, as shown by the condition of pupils when they enter the high school, are unsatisfactory, the fault must be chiefly due to the handicapped conditions to which the grammar-school teachers are subject. The same faults, in a less exaggerated degree, are present in the high school, despite the assurance of a distinguished apostle of modern education, an eminent head of a great university, who has recently declared it to be the amazement of his life that the secondary schools of this country have reached such a degree of efficiency as they now give evidence of, our preparatory

schools, in his judgment, being so excellent as to warrant shortening the college course to three years.

It is impossible in treating this phase of the subject to separate the high schools from the schools below them. Mistakes in the pupil's earlier career mar his later work. Keeping in mind for the moment the public schools, this remark has peculiar significance, especially as the public-school system now embraces both the professional and academic education of teachers. Each city has in its hands the entire molding of its grade teachers, training them even from the kindergarten to the end of the period of the professional school. Within recent years subjects have become prominent in our lower schools which once would have been thought out of place there. These subjects are some of them technical and artistic, and are not to be taught satisfactorily except by teachers specially trained. Drawing and music are fine arts, and from the beginning should be taught by persons carefully educated for the purpose. So, those who are to become teachers of physical training and sewing, to give acceptable and profitable service, must have been subjected in the high and normal schools to a training emphasized in these respects. There should be a wise discrimination in the courses of study in the high and the normal schools such that, while requiring all to pursue the more fundamental subjects alike, a few, who are gifted by nature for any one of these less fundamental branches, may receive a thorough training in their particular specialties. Then there would be eventually in every grammar school a competent teacher of drawing, and music, and sewing, and physical culture; and yet this same teacher would here receive the full equipment in the more solid branches, as well as also in psychology, methods, and the general history and science of education.

DISCUSSION

By MR. A. L. GOODRICH, Principal High School, Utica, N. Y.

Mr. President, Ladies and Gentlemen: Obviously, the ten-minute speakers are at a disadvantage in attempting to controvert any opinions that may have been already presented, with which they do not agree.

You will pardon, then, abruptness and rapidity of reading, if, in what few words I have to say, I endeavor to cover rather more ground than properly belongs to a ten-minute limit.

With Dr. Sharpless' fourth thesis, we have no contention. We believe thoroughly in the value, and have strong convictions as to the place of the small college. It has been, and is still doing a work which I for one would never hinder nor belittle.

Concerning the third thesis there is much we should like to say, did time permit. We can only say in passing, in relation to a part of it, that we are unable to see how a *local* evil or *temporary bad* management can be used fairly as an argument against principles.

It is with the first thesis that we are inclined to take issue strongly. We are not, as yet, convinced that the recent changes in university standards do "involve an increase of age for admission," that they have, or will, "produce additions of one year to preparatory courses," or that these changes "are unwise." In fact, Dr. Sharpless' second thesis points out the way in which much time may be saved, and we know from experience, that this economy *can* be practiced to a much greater extent than he admits. Anyone who has watched the treadmill processes of elementary schools, on such subjects, for instance, as arithmetic and geography, knows perfectly well where the responsibility for a large part of the time consumed rests.

But Dr. Sharpless does not even insert in his theses the chief feature of modern changes, namely, the drift towards options in entrance requirements. In this direction lies our surest hope for improvement. When this is established on a rational basis, many difficulties, including loss of time, will become of a character easier to meet, and it will then become possible to provide an educational training, up to the limit of the secondary school, more virile in character, and far better suited to the needs of modern life than that which now exists.

Such freedom in options as we should like, cannot, however, be attained until colleges, large and small, admit the possibility of culture without the study of the Latin and Greek languages. Notice, we do not say, without the study of Latin and Greek history, literature and art. We say, without the study of the Latin and Greek tongues. Professor Hart, of Harvard, intimates that this will be done "only over the heroic bodies of the defenders of classical learning" and I am afraid he is right. Nevertheless, I believe that this is the direction of safe and useful progress. In some way, by some means, we

must contrive to convict disbelievers of sin, and persuade them to repentance.

Is it really clear that one is wrong in asserting that it is not wise for secondary schools to be without the stimulus of a high standard of entrance requirements? Twenty years' experience, in an eastern school constantly fitting boys for Harvard, does not so teach us. Nay, we go further, and believe that the influence of these standards ought, as promptly as possible, to reach far more secondary work than it now does. The extension of the principle of options will make this possible.

But after all, this is not the main point to which we wish to speak. Dr. Sachs has advocated the substitution of general history in the place of special. In this he is not alone. Professor Salmon has done the same at another time, and there are others who believe the same. With your permission we will give, somewhat at length, our reasons for disagreeing with them. These reasons are based on the content of the subject, the incentives it furnishes, and the mental development of the student. If you will kindly fill the gaps in the argument, a résumé will run somewhat as follows:

The value of any one subject as an educational factor will be great or small according as it helps strongly or feebly towards the main end of education. Now, we take it, with Professor Hanus, that the great aim of education is "complete living," which means, in the last analysis, to be useful, and to be happy. To be useful, means to be of service to one's self and to others. Capacity for service means power, but power is not developed without incentives, and the incentives furnished by a subject, depend on its content, and on the permanent interest which this content stimulates. Thus, content and interest provide for us the tests by means of which we can determine educational values and decide upon our methods. Now, the highest ideals of the race, those, that is, which furnish the most powerful incentives, are ethical. They embody, as has been said by another, our thoughts concerning duty, honor, beauty, love. These are the ideals involved in the content of history. History lacks the powerful imaginative content of literature, the rational content of philosophy, and the æsthetic ideals of art; but it is the story of human life with all its hopes, struggles, defeats, and victories; it sets before us the highest actual examples of honor, of courage, of self-denial, and of achievement; it involves the rise and fall of principles, the influence of

environment, the change of morals, the development of literature and art; it notes for us the relentless nature, and the wide reach of the evil which dogs the steps of human error; it portrays the incessant struggle between right and wrong, and warns us of the eternal necessity for vigilance. It seems needless to assert that a content like this is full of powerful incentives, nor does it seem possible that it can be lacking in interest. But the subject, nevertheless, *has* considerable difficulty pertaining to it and too often fails to command permanent interest. This failure is mainly due to mistaken methods; but the inherent difficulty is not to be removed by random change of method. It must be understood before it can be met. The two most prominent forms of human reasoning are induction and deduction. The former proceeds from ascertained facts to incontestable generalization; the latter, dealing in *certain* premises, arrives at *sure* conclusions; but, while these are the most prominent, they are not by any means the most common forms of reasoning. By far the larger part of our reasoning deals with data of which we are not, and cannot be sure, and arrives at conclusions which are only probable. This is illustrated forcibly in the region of personal conduct, which, if rational and wise, is only to be decided upon after consideration of attendant circumstances. Now the content of history partakes of precisely this character. It deals with men, their deeds, and their motives. Even when the deeds and facts are certain, the play of motives is obscure. We can never place ourselves in the exact environments of these men of the past, and therefore, can never be sure of all which influenced them to their conclusions. All our reasoning concerning them is probable, as was also theirs concerning the data with which they had to do. They were men like ourselves, and quite as hard to understand, as our fellow men today. Therein lies the difficulty of the subject, but therein lies also its inestimable use as well as the possibility of an intensely human interest.

If the above be thoroughly understood, it is no longer strange that young people so often fail to develop an interest in this subject. Successful reasoning on probabilities is only possible after the accumulation of sufficient data for comparison. Immature minds do not possess these data. Any attempt to force this side of historical study upon the young mind either too early or too fast, simply defeats itself. A youth cannot become interested in what he cannot understand. The present condition of the subject is chaotic. It is taught unscien-

tifically, at wrong times, and not continuously enough to permit of bringing its incentives to bear effectively. It may be advantageously begun (in the form of stories and biographical sketches) when the child begins to read, and should be continuous, or recurrent, in this form up to the age of ten or twelve. This is the period for collecting data, not yet correlated, of course, for the child is young, but full of inspiring ideals chiefly ethical in character. When the age above mentioned is reached, the method of instruction should commence to change. The child is now mature enough to form and express opinions of some value, and to enjoy doing it. This is the period during which training in probable reasoning and the formation of opinions should go on. When the student has arrived at the time for leaving the secondary school, his mind has very nearly reached the limits of its physical growth, and the period for original investigation and comparative study has arrived.

If what I have thus advanced be correct, it is plain that the formal study of general history has no place in the secondary schools. The simple reason is that the pupil is not mature enough; he has not acquired the data necessary; nor would he know how to use them effectively if he had.

Notice that the argument is not directed against history in general, nor against general history in particular. I admit, and have explained why I admit, the value of the subject; but I insist that it presents a difficulty extremely troublesome to the young, and that this difficulty will be needlessly and uselessly complicated by substituting the general for the special.

This does not mean that the pupil has not been comparing and generalizing. He has been, if rightly taught; but such work has been incidental and illustrative, not formal. I have seldom been more interested in an educational paper than in that presented by Professor Salmon in the *Educational Review* for September, 1896. With her general scheme for the subject as a whole, I find myself in agreement, but in regard to her conclusions as to time and place, especially as illustrated by her diagram and enforced by her analogies, the case is different. My experience warns me that her radii are too short; that is, she expects more rapid advance than is either possible or wise. The sectors of her circles cannot be filled out in the time she implies, and in many cases these sectors must run beyond the inner circles to which they belong before the other sectors can be completely filled. The

reasons for this, as they appear to us, we have tried to indicate. They are, in substance, lack of time and lack of maturity.

Boston, if I may use one or two of her analogies, is an intricate city, and no one climbs Bunker Hill Monument to learn it. If he does, he fails. Mountains are excellent positions from which to collate and compare, but the lowlands must be crossed to reach them. In order to gain such summits, time, effort, and maturity of muscle are needed, and the analogy holds in relation to points of mental uplift. Baedeker is an admirable guide for the superficial or for the mature, but not for the young. A landscape is unintelligible to one who has no mental images which will explain its parts. We cannot generalize without previously acquired data.

No; history is a curious complex of things easy and things hard. The story part is easily grasped by young minds, but the other and really valuable parts — the power of the influences which led to action, the play of motive, the effect of results, the comparison of influences, of motives, of results, and of characters — these are things not easy even for the mature.

Let us then confine our historical instruction in the secondary school to what our youth can grasp and not revert again to too early generalization, and thus end in defeat. For hasty generalization means superficiality; superficial work never commands permanent interest; power is not thus gained, and the great aim of education is no nearer attainment. One does not in this way become either more happy or more capable of service to himself or to others.

DISCUSSION

PROFESSOR J. H. ROBINSON, of Columbia University

As a member of the sub-Committee of Ten which met at Madison five years ago to consider the teaching of history in our schools, I may be permitted in reply to Dr. Sachs' criticisms, to say a word in justification of my colleagues and myself. Our object was not diabolical. However unfortunate our phraseology may have been, our motives were pure (laughter). Compromise was, of course, necessary and it may be that no one of us would ratify all the sentiments expressed in the report which was formulated, as I know, under especially adverse circumstances. In recommending that the last year in the high school should be devoted to what has been misleadingly enough called "original research," we

had no idea of deluding the student or of forcing him to attempt anything of which he was not capable, but hoped simply to encourage him to use his own wits. We never for a moment contemplated the possibility of his adding, or supposing that he was adding, anything to our knowledge of history. We recommended the plan universally pursued in other studies, that he should perform certain practical exercises in exactly the same way that he does when he translates a sentence of a foreign language into our own tongue or solves a problem in algebra. I do not suppose that Dr. Sachs would consider that we were fostering the belief in the student's mind that he was carrying on "original research" when we set before him a quadratic equation. All we ask is that in history, if it is to be anything more than a purely receptive study, the pupil shall sometime in his course, be encouraged, quite innocently, to exercise his own faculties. It seemed to us a great pity that the boy or girl who never goes to college should leave the high school with no conception of history except as an inflexible dogmatic statement of facts.

One more point, Dr. Sachs has quite properly dwelt upon the advantage of "hard facts." Now it seems to me that we are not going to get anywhere until we carefully distinguish between two kinds of hard facts—the relevant, the fruitful facts, facts with corollaries, capable of suggesting deductions; and the kind of dry facts which carry us nowhere. Mr. Paul Ford has successfully proved that Washington's mother was accustomed to smoke a pipe. This is a fact of minor importance; it does not carry us very far. It suggests, perhaps, certain differences in the family life of those and our own days. Let us compare this with another and much neglected "fact"—that the French Revolution was due to the increasingly better conditions in France, that France was better off than any other country on the continent when the Revolution came. Is that not a fact suggesting all sorts of valuable deductions? To take another instance: it is a fact, too, that Huss was executed for analogous reasons to those for which he would have been executed had he committed the crime of murder. He had violated the law of the land. He was not heard for the same reason. If a man is brought up for murder he usually says that he did not do it. Huss asserted he was not a heretic, but that did not weigh with his judges. Now, what an interesting series of inferences might be made from that fact for the student of history. It is true, again, that Francis II was nominally king for a few months. He came between Henry II

and Charles IX, and married a very famous lady. All these are unimpeachable facts, but by what right are they or a host of similar relatively insignificant truths forced upon the pupil to the exclusion of the momentous changes of the past? To urge us to adhere to "hard facts" profiteth little. The whole discussion will sometime reduce itself to an effort to determine just what historical truths may be most usefully dwelt upon in the brief period during which we teachers of history come in contact with our pupils (applause).

THE PRESIDENT: The floor is open to other speakers. I put three minutes before you.

DR. JULIUS SACHS, of New York City: I think there are several points on which I have been misunderstood. In reply to Professor Robinson, let me say, I argued for the teaching of facts—not of all facts. I understand quite well that facts are different in quality. It was the question of drawing the line between the claims of information and deductions of a philosophical character which I consider foreign to the secondary-school period. I think that the statements made by the gentleman from Utica tended particularly to disparage the study of general history. In the "mist of general history" he had in view the philosophy of history—it is as far as possible removed from my mind that that is a fit subject for elementary teaching. The progress of events is one thing and the chain of philosophical deductions quite another. The last school year devoted to supplementary information in the study of history can be made quite valuable; but I simply opposed the plea for the *intensive* study of any one period; the statement of the historical conference was so thoroughly explicit on that point, you will remember that I quoted the very language, that it did not admit of any misunderstanding, it was distinctly stated that work very analogous to that done at college was to be entrusted to the students in the last year; and it is against that view that I distinctly protest. I can mention that the little pamphlets issued by the University of Pennsylvania, for which Professor Robinson was himself at one time partly responsible, have been used constantly in my school for supplementary work; and yet I would not for a moment dignify the reading of that on the part of the students as original research, certainly not on the intensive side of history. It is simply a further element of collateral information.

THE PRESIDENT: The floor is open to other speakers.

PROFESSOR WILLIAM W. BIRDSALL, Principal Boys' Department Friends' Central School, Philadelphia: There are two points to which I wish to speak: the first point, in Dr. Sharpless' paper in regard to the maintenance and position of the small college. I talked the other day with a son of Amherst College about the work of a great university, comparing it with that of the small college; and he said: "If I could today meet President Seelye upon the street, he would say, 'How do you do, John?'" That is to say, in that institution the contact between the great man, the head of the college, and the freshmen was such that there was intimate personal acquaintance between them; and it is the sort of thing, in my judgment, that has no equivalent anywhere within our educational scheme.

The other matter about which I wish to speak, is what seems to me the constant assumption, on the part of those who outline our college programmes, and our college entrance questions—the constant assumption of maturity of mind on the part of the applicant. It has been touched upon here this afternoon; but you will pardon me if I briefly allude to it again. The point of view of the boy of eighteen years of age is widely different from that of the man of twenty-five years of age. The point of view continually changes, as the boy progresses under our care, from fourteen up to the time of his graduation from college. It is utterly futile, in my judgment, to demand of the pupil in the secondary school—the high school—that generalization, that deduction, that inference, which is, as Dr. Sachs has so strongly, so forcibly said, the peculiar work of the later years in college. And the assumption, on the part of our college examiners, that the boy of eighteen can do the same kind of work upon the materials with which he has to do that the man of twenty-three does upon the materials with which he works, seems to me to be fundamentally and absolutely wrong.

Perhaps I can make my point clearer by trying to speak to another point. We used to have in some secondary schools a great deal of talk about mental and moral philosophy; and that work in mental and moral philosophy consisted in learning certain statements about the conclusions of certain philosophers; and was about as valuable an intellectual training as learning so many pages out of any other book. You set a child to doing laboratory work and he is very liable to work by rote; indeed, unless he has the great good fortune to be under the

direct and immediate personal care of a very great teacher, this is the usual result. He goes through a certain routine: that portion under direction is done; he may commit to memory the formula or law deduced, and so make it of some value; but is very likely not even to do that. Such routine is as far as possible from being genuine laboratory work, and defeats its own object largely because the attempt is made to apply to a child the methods which are appropriate at a later stage of his development. So it seems to me that the great thing for us today is to work more intensively, do better work upon the same narrower lines which have so long obtained, that we can from time to time, grow toward a more perfect method, but that we should remember always that the material with which we have to deal in the secondary school is not a college man but a boy (applause).

PROFESSOR ASHMORE, of Union College: A word with reference to the point made in Dr. Sharpless' paper. It is one that comes within the limits of my experience and from which I have suffered somewhat. Dr. Sharpless said a word about the question of entrance examinations and the question of admitting students to college on certificates. I don't want to create any antagonism, or to appear to try to create any antagonism, between the college and the school on this point. I believe sincerely that the closer the articulation between the college and school, the better it is for all concerned; but an experience of about twenty-five years in teaching in academic institutions has shown me very clearly, as I think, that the entrance examination is a better test, and, taking things all together, a more profitable thing than the certificate of admission. If we could perhaps organize our schools and our colleges on a basis according to which they would all constitute part and parcel of the same institution—of the same university, if you choose to call it so, similar to that which the Chicago University has been trying to arrange—perhaps it would be needless to think upon this subject at all, much less to speak about it; but I am confident that under existing circumstances the schools would feel a greater incentive to honest work, and generally happier, if, as Dr. Sharpless suggested (if I remember rightly) they were constantly aiming at what they knew would be a distinct and definite examination—a practical test applied to the young boys who go up to enter the freshmen class at college—rather than, as is the case today, if they merely fill out the certificates which are sent to them from Amherst, and from

Williams, and from Cornell, and from Union, and upon these alone are allowed to enter. Now from practical experience I feel sure that a large proportion of the students are admitted to college on certificates which do not honestly represent the facts. I do not, for a moment, suggest, of course, that teachers would deliberately misrepresent the facts; but I do say that the facts are misrepresented (laughter), and I should be very glad if the colleges that I have named, and which, as I understand, are pursuing this system (my own included)—if those colleges would combine with others and with the schools for arranging, if possible, a standard which all should understand—all should grow to; and a system of entrance examinations which should be satisfactory all round.

MR. ASHLEY, Dean of the Law Department of New York University: If I can bring myself within some one of the theses given—and I leave it to you to decide to which my remarks apply—I should like to say one word from the standpoint of the professional schools as affecting this question. No intelligent man today, I think, will hesitate to say that three years is none too long to furnish a fair preparation for the life of a lawyer. We all of us, too, will readily theoretically agree with Mr. Dewey when he states that every student, before starting out on his professional studies, should first take the most thorough high-school course possible, then the full college course, and after that begin his professional work. Let us consider for a moment, though, what this means: the average college student comes to us at twenty-two or twenty-three years of age, we then say to him: "Three years more for your law course"—that is twenty-six. If then, after that, he has fairly good fortune, by the time he is thirty-one or two he may possibly be making a living in practice. That means, then, we are obliged to tell these young men that for the rest of their lives in pursuing their profession they must be not only Bachelors of Law but bachelors in fact. This, of course, leads to a demand for change somewhere. These young men are going to say to us, and we are going to say to our presidents that we must keep our three years, but they must make the change somewhere else. What happens then? Immediately the president will begin to see if the college course can not be cut down in some way, there will be opposition in the college; and the result will be an attack by them on the school course, in order to please us in the pro-

fessional schools. Might we not take a hint in this line from Germany and their method of handling the subject? There they give their young men the thorough school training necessary. When they enter the university, if they are to pursue a professional course they begin at once. We say, "You should first take your Bachelor of Arts and then try for your Bachelor of Laws." Is that necessary? Is it not perfectly feasible to give a young man a thorough school preparation; so that when he is twenty or twenty-one he is amply competent to begin his professional work? Let him enter the college for such line of work, professional or otherwise, as he desires; and pursue that course to the end. If that is done, or any plan can be devised by which the universities can agree upon it, the pressure which we now find to lessen the college course, would, to some extent, be removed. It would help you, gentlemen, in the schools, and in the undergraduate department in the colleges; it would help us of the professional schools, and would aid us to keep our professional courses up to the necessary standards (applause).

THE PRESIDENT: We are still ready to hear expressions on the consensus of opinion.

PRINCIPAL BUCHANAN, of the Boys' High School of New York City: I do not know that what I shall say will have much bearing on the consensus of opinion, but it will be along the line of the speeches of those who have preceded me, and will at least be relevant to the side questions brought out in the discussion, if not to the main question itself.

Gentlemen have made a plea for a longer time than ten months of school in the year. I fail to see the force of this plea. Children need at least two months of the year free from the exacting duties and responsibilities of the schoolroom, and people are beginning to think this way to such an extent that in many sections of the country there is an increasing demand to shorten the hours of study and to make the vacation periods longer. An experiment has been made in Kansas City, Mo., which shows that pupils can do in nine months the work that is usually laid out for a term of ten months.

Twelve years ago, the length of the school year there was reduced from ten months to nine, and the course of study instead of being decreased has been gradually increased, and the results show that the

pupils now make as good progress as was made by pupils under the ten-month régime. Pupils in the city mentioned complete all the work below the college in ninety-nine months; the work below the high school in sixty-three months; that in the high school in thirty-six months. These are average children. Why should they take a longer time? Why, therefore, should any average child take a longer time?

Again, the months of July and August are too hot, both for pupils and teachers, to do effective work in the schoolroom, and a longer term than ten months must include one or both of these months. I believe that a ten months' term is long enough for any school year.

Now a word on the question of how the large high schools may meet the college requirements for admission. I offer these suggestions: Make the school the best it can be made in equipment and in teaching force; give attention to college requirements only in putting into the curriculum all the subjects that all the colleges include in their requirements; urge the teachers to teach so as to develop power, and to give little or no heed to preparing pupils to answer lists of questions that the colleges may offer; make courses of study for individual pupils so that they will comprise those subjects included in the admission requirements of the colleges they wish to enter. These suggestions have been worked out with good results in several of the large high schools in the West. Pupils in these schools go to the several state universities and the large universities of the East, North, and South, to some by certificate, to others by examination, and, while the schools give but little or no attention to the special preparation for examination, yet their pupils pass creditable examinations for admission to the various institutions. I call to mind one of these high schools which sends yearly 55 per cent. of the boys of the graduating class to college, and most of them to institutions like Princeton, Harvard, and Yale. It appears that these schools carry out the spirit that lies back of the Harvard plan of examinations; their teaching ends in power, and the good results they attain are secured in the absence of direct, immediate college supervision. They were doing good work before the Committee of Ten issued its report, and had many of the good things that were recommended by this committee already in active operation before its recommendations were made.

I believe that large high schools, especially those in the principal cities, will do the best service to their pupils, both for admission to

college and to business life, when they devote their teaching to the thought side, as Dr. Sachs so aptly suggested in his paper, and aim at the developing of power in the pupil, and when they make taking the examinations for admission to college only a pleasant incident in gaining this larger end.

PROFESSOR FRANCIS HEIERMANN, of Canisius College, Buffalo : We certainly favor the opinion of the gentleman who remarked that the time for the study of law or medicine should not be less than three years. The gentleman referred to the German system. May I be permitted to make a statement about the secondary schools in Germany ? It was said that in Germany the gymnasium will prepare the student for any course in the university, and that we should send our American students to the university after completion of the high-school course. This German gymnasium comprises nine years ; I do not think the high school of four years' course can be compared with the gymnasium. There is much more solid training in the well-graded course of nine years than in a course of four years. If you ask German teachers they will say that that part of the gymnasium which is called "Ober-Gymnasium" is far superior to the education which is given in the high school. On the other hand, we ought to side with the gentleman who stated that the elementary schools, the grammar schools, ought to be reduced as to time. In Germany, the boy will begin his gymnasium at the age of ten or eleven, completes his course at the age of nineteen or twenty ; then he is fit for university education ; whatever special subject he wants to take up he is fitted for that. Thus a certain general and broad culture is required ; and if I am not mistaken, not only the regents of the state of New York, but all enlightened educators in this country, agree upon this point, that the pursuit of any professional university study — medicine or law or whatever it may be — calls for a much longer and broader preparation than is generally given in high schools. The time of the elementary studies could be reduced ; and if this were done, I think we could have a high-school education of four years, and a good education of four years college proper, — that college course which has been always considered as such a substantial foundation for university studies (applause).

THE IDEA OF A UNIVERSITY

President's Address by DR. J. G. SCHURMAN, President of Cornell University,
Ithaca, N. Y.

Ladies and Gentlemen: In arranging the programme of the convention, the executive committee desired that an opportunity should be given to express whatever consensus of opinion might have been reached, as the result of the discussion of the last few years, in regard to those fundamental questions of college and of secondary education which have come up so often for our consideration. They did not, of course, imagine, that in place of the agnosticism and the groping in educational matters which is now so prevalent, there would result from this discussion—from the labors of this convention—a creed of ecumenical validity, which we should adopt and go home and practice. They did, however, feel, that, as during the last eight or ten years we have constantly been discussing points on which we have differed, there might, if we would but collate our views and throw the conflict of ideas into one common ferment, result what I may call a practical working theory of secondary education. How far the judgment of your committee may be at fault in this matter, or how far it will be borne out by the facts, it lies, of course, in your equity to judge. I had myself urged upon the committee that instead of the annual presidential address, we should this year, as the session was a somewhat short one, substitute a regular evening meeting, which should also be given up to the consideration of these important themes. But they were inexorable and insisted that the usual address should be given; and, as for subject, they, kindly suggested that the whole universe lay open to me, provided only I did not discuss themes which had been assigned to other speakers. Proceeding by this process of exclusion, I found myself at last attracted to a subject to which I was somewhat naturally conducted by the nature of my interests, by my tastes, by my training,—a subject, also, which, of recent years, and even of recent months, among our—

selves, has given rise to a good deal of discussion in the newspapers, and the periodicals, and the higher organs of literary expression.

The subject which I have chosen is "The Idea of a University." I am quite aware that it is a large theme; and that, if there be any consensus of opinion on the other topics which we have here been discussing, it is likely enough that even after I have finished you will not all be exactly in accord with me. Nevertheless, I thought it worth while to lay before you the views which I had come to entertain upon the subject; and my object has been to determine—I do not pretend to have reached any great result in the matter—but my aim, at any rate, was to endeavor to determine what the constitutive ideas of a university might be, and what had been the nature of their historical development. In other words, to look at the university from the point of view of its germinal idea, and of its historical evolution, is, at any rate, the problem I have set before me. And I flatter myself that the subject will not be out of keeping with that more general theme to which the committee has invited your attention; for if we can but determine approximately the true idea of the university, the discovery cannot fail to throw light upon those perennial problems of the relation of the college to the university, and of both to the secondary schools.

Now, ladies and gentlemen, when I addressed myself to this subject, the first thing which impressed me was the recency of the institution with which we are dealing. We habitually associate the university with that knowledge and culture of which it is the most potent instrument and agency. It is a natural association of ideas, and most inevitable; but from the point of view of history and chronology it is altogether perversive of the facts. Knowledge and culture, and the higher civilization existed long before the foundations of the oldest universities. As a wise man once said: "There is nothing new under the sun," it may also be said that the university is no new thing in the world; but in so far as we talk of anything new—the American Revolution, the Roman Empire, the papacy,—in the same sense we may

speak of the university as a new phenomenon, and, as I said a moment ago, a recent, a modern one. The oldest university is not much more than eight hundred years old, but science and medicine, and theology and law, and all the higher things in civilization take us back beyond the dawn of Christianity to the Greeks and Romans, and to those mysterious peoples of the Orient,—behind whom, even in that remote period, there loomed a still venerable antiquity. This thought is worth, as it seems to me, dwelling upon for a little; because in the first place it may give us some adequate conception (which, through the machinery of education, we are constantly apt to overlook) of the creative power of unschooled mind. If anything can set us right in this matter, if anything can show us the altogether secondary position which educational institutions occupy in the history of human culture, it is surely this thought, that the great intellectual and æsthetic achievements of Greece, for example, all that Athens achieved in art, literature, and philosophy, preceded by some fifty generations the emergence of the earliest university; and this brilliant age, the age of Phidias, the age of Sophocles, the age of Pericles,—the great achievements, I say, of this brilliant age were the products of men who knew no foreign languages, whose acquaintance with science and mathematics and history was below that of Macaulay's proverbial schoolboy, and whose knowledge in other things was, I suppose, confined to the elements of logic, rhetoric, and oratory. The university is the potent instrument—certainly in our days—of the higher civilization, and especially of that culture which constitutes its most intellectual element; but the university is vastly later than these.

The second thing which has impressed me while thinking upon this subject is that we constantly misunderstand (at any rate, if we apply the historical criterion of judgment) the nature of the university. John Henry Newman, in his work on "The Idea of a University" (the only work, so far as I know, in the English language, which deals with the subject that I have chosen as the subject of my address) lays down, in the very

preface, a thesis which chimes in with our own natural way of thinking; but which, I am sure, is altogether erroneous. That subtle master of dialectics says: "A university, by its very name, professes to teach universal knowledge." It was in the fifties—1852, I think—when Newman wrote the dedication to his "Idea of a University;" and there have been many changes in the half century which has elapsed: an enlargement of knowledge, an interest in new intellectual fields, a changed attitude towards authority, a metamorphosis of the *Zeitgeist*; so that much which Newman wrote, and wrote so well, has become obsolete through the mere lapse of time. I suspect this is also true of the fundamental theses of his "Idea of a University." Certainly, when he claims that the university, by the very nature of its essence, aims at teaching universal knowledge, he flies in the face of history. I am far from saying that in our day it may not be a captivating ideal, and perhaps a necessity of our civilization, and I certainly am not likely to forget that the founder of at least one modern university aimed to make it (the ideal always far outruns the fact), but he *aimed* to make it, "an institution where any person can find instruction in any study." That may be, for us, I say, a quite intelligent and natural and necessary aim, but historically considered it is absolutely without foundation, if you erect it into the notion of the constitutive essence of a university. Universities did not aim, in the first place, at teaching universal knowledge, and in the second place, if I may dwell for a moment on the mere word (and Newman's argument is an etymological one), the word "university" does not mean a university of faculties, it does not mean an institution which is the nursery of every kind of learning and scholarship. The word "*universitas*" implies etymologically simply a number of persons, a party, or, in its more formal sense, a corporation of any kind whatsoever, and in the twelfth and thirteenth centuries, when universities were being founded, the term "*universitas*" was not one primarily applied to them at all in the sense in which we apply "university," but another, which I shall deal with a little later on. When the word "univer-

sitas" was used, it signified simply an aggregate of persons: the guild of scholars, for instance, at Bologna, the guild of masters at Paris, or at Oxford. I use the term "guild" of set purpose, in order to bring out clearly the relation between the scholastic craft and the other trades-unions of the time. Whenever men came together in the twelfth and thirteenth centuries they formed such guilds, so there were guilds of tailors, and of carpenters and other mechanics, and there were city guilds or municipalities, and to each and all of these, the word "*universitas*" was applied in exactly the same sense in which it was applied to the guilds of scholars, or to the guilds of masters. Newman's etymological argument is therefore utterly fallacious. Furthermore if we consult history we shall find that as a matter of fact, these earlier universities did not aim at representing, in their faculties, every branch of learning. There never was, for instance, a faculty of medicine or law at Oxford University. Bologna University became famous for its school of law. Salerno was nothing but a school of medicine, and at least two universities—Saragossa and Erfurt—were simply schools of arts, or what you would perhaps call colleges alone. Neither etymologically nor historically, therefore, is there any warrant for the statement that, as Newman declares, "the university aims at teaching universal knowledge."

What we call a university—*universitas*—did not, in the twelfth and thirteenth and fourteenth centuries receive that designation at all. What we call the university was then called a "*studium generale*"—place of general study, you would perhaps translate it. No, the "general" lay not in the multiplicity and variety and comprehensiveness of subjects taught, the "general" lay in the number of patronizing localities. It was not an institution where all branches of learning were taught, but it was an institution to which students came from all parts, and in the twelfth century, the close of the twelfth century and the beginning of the thirteenth century—there were a very small number—three—of such "*studia generalia*."

Let me now glance very briefly at these institutions, and

then I shall go on afterwards to speak of what seem to me their essential characteristics. I will say, first of all, that when the eleventh century closed there was but one university in the world, that was the University of Salerno, and when the thirteenth closed there were not more than six: Salerno and Bologna and Paris and Oxford and Reggio and Montpellier, these and no others. I ask you to think, for a little while, on what is involved in the making of a university, and why it was so new a thing in the world, when Salerno and Bologna and Paris came into existence. Clearly, we may have knowledge and culture without universities, as I have already indicated by great historic examples, but you may also have teaching without universities. It is not necessary that the different teachers should come together and form a school; it is not necessary that such combinations or corporations of teachers should receive privileges and franchises; it is not necessary that requirements for matriculation should be laid down, courses of study and requirements for graduation prescribed. These were the peculiar features of the formal "study" of the studium generale; these are the peculiar features of our universities, and all these, ladies and gentlemen, originated with the institutions I have just mentioned.

The middle ages, the historians tell us, were characterized by their genius for embodying ideals in institutions. That is the work which the middle ages have done for our civilization, and the three great institutions, historians tell us, which they built up were the university, the church, and the empire. A writer of the fifteenth century classes these three institutions together as the three sustaining powers and virtues of Christendom. It was felt in the middle ages that in the university a new and a potent institution had arisen.

Now let me go back to the specimens which I have mentioned. I am not going to consider all six which I have mentioned; Salerno, which arose about the middle of the eleventh century; Bologna, which arose towards the close of the twelfth; and Paris and Oxford and Reggio and Montpellier, which fol-

lowed soon after. Reggio, for instance, was a mere offshoot from Bologna, although it was called a "studium generale." That was due to the accident that the towns around about were autonomous—were separate states; and therefore, although topographically considered they were close together, yet the students from them would of course hail from different states, and so gave the institution the name of "studium generale," or a place of general resort. That was a mere accident. Besides Reggio is not worth considering for another reason. In the thirteenth century it disappeared altogether. Nor shall I say much about Oxford, because it is an offshoot from Paris. Oxford owes its origin to the migration from Paris, which took place towards the close of the twelfth century—a migration probably due to the summons of Henry II, after his quarrel with Becket, to the beneficed clergy who were studying in Paris, to return home as they loved their benefices. And, all loving their benefices, they did come home and set up a "studium generale" at Oxford. We shall, therefore, not speak of Oxford in any detail, because it is a university of the Parisian type. And although the "studium generale" at Montpellier was probably an independent institution, although it was not an offshoot of either of the others, yet it was dominated very largely by Bologna ideals. Accordingly we are left with but three primitive institutions, Salerno and Bologna and Paris. Of these, as I have stated, Salerno is the oldest. It was never more than a school of medicine. Why it should have started up in Italy early in the eleventh century (for it certainly was famous in the middle of the eleventh century) we cannot perhaps altogether understand. But some circumstances will at least help to make it clear why culture should have sprung up somewhere in old Magna Grecia. Classical tradition still lingered there with the classical literatures and the medical writers of the ancient world were known. And Salerno being a health resort, it was very natural that if any sort of school were to spring up in the region, it should be a medical school. At any rate, Salerno began and continued as a medical school; it never had any other faculty; and what is

perhaps still more strange, it never, so far as we know, gave rise to any other institution. That, I say, is a striking fact; because there is nothing more remarkable about Bologna and Paris than their reproductive capacity. They gave rise to numerous other institutions; but Salerno was doomed to infertility. It ended as it was at the beginning, as a school of medicine; and what is more, the other great medical schools of Europe were uninfluenced by its traditions. No virtue of any kind went out from it; and so it happened that the traditions of this earliest school of medicine died with itself—they were not reproduced elsewhere.

Turn now to the other two institutions I have mentioned—Bologna and Paris. These, ladies and gentlemen, are the two great typical universities of the world: one of them, Bologna, a guild of scholars; the other, Paris, a guild of masters. I would like for a little time to dwell on that word “guild” and explain why such guilds of necessity arose, and also the difference between the two. I have already alluded to the object of associations in the middle ages. The cities of northern Italy were free republics. The traditions of Roman law lingered in northern Italy much longer than anywhere else; and in the free life of these northern Italian cities, it is easy to understand that developments of law should take place, and, in time, the need of some institution to extend the knowledge of it. At any rate, somewhere in the twelfth century such a school of law was formed at Bologna; but the strange thing about the school thus formed is that the corporation, the guild, the “universitas,” was not a corporation of professors and teachers, but of scholars only. And why? Because the scholars who flocked to that “studium generale” from all parts of northern Italy, sacrificed their own citizenship. The inhabitants of the cities of northern Italy valued citizenship as the citizens of ancient Greece or Rome did; and so it was natural when they came together in a foreign city, losing the franchises of their own home, that they should form themselves into a quasi-republic, a new city, a new organization; and this, I say, would have been an easy thing for them to do, considering that they had before them, among the mechan-

ics and in the municipalities, a perfect model which they could easily imitate. Consequently, the University of Bologna became a corporation of students. But there was one other limitation; Bologna students were excluded. This is easily understood, for Bologna students, not having left their own homes, enjoyed those privileges and franchises which the visiting students had forfeited in coming to Bologna. The interesting thing about this earliest university, this guild of students, is that it took—as we say in common parlance—the law into its own hands, dominated the professors, and at last subjected them to the most humiliating servitude. The guild of students made statutes, which of course their own members were obliged to obey; and these statutes, in the course of an incredibly short time, they managed to impose upon the professors, who were compelled to take the oath to obey them. And the professor, in the discharge of his duties, might at any time be interrupted by an officer coming from this haughty corporation of students, dictating to him, by public proclamation, how he should do his work. They made the minutest regulations regarding the lectures; the professor was to begin promptly at the moment and end also promptly at the moment (laughter)—he was not to take holidays except by permission of the students; and as it happened in those days, as some of us know by painful experience it happens in Germany and perhaps elsewhere still, that a professor will exhaust the larger part of the time allotted to him in dealing with the bibliography or introduction to his subject—this wise corporation of students stipulated, and made it one of their statutes, that the professor should cover, during the term, the whole of the book, or of the subject, assigned him. Never were professors so domineered over as they were by this bullying corporation of Bologna students. The rector was the officer who represented their authority. They chose him. It shows in a very striking way how the features and traditions of these earliest corporations survived to our own time, that only this month the students of the University of Glasgow filled also, in the ancient way, that venerable office of rector. The students of

the Scottish universities enjoy a franchise given no one elsewhere throughout the English-speaking world: they have the right annually—at Bologna it was, I think, biennially—but in the Scotch universities they have the right annually to elect some distinguished man as their rector. Of course, in the days of Bologna, that rector was the depositary of their authority and the exponent of their will—the personality who embodied in himself the “universitas” or guild; but in Scotland, this dignity has now become a mere supernumerary; and when, as I said, the other day the Right Honorable Joseph Chamberlain, secretary for the Colonies, was elected rector of the Glasgow University, he was chosen by the students, but instead of having charge of the entire institution, as his predecessor at Bologna had several centuries before, his sole function consisted in making one speech to the student body.

The University of Paris is the other type. It was not a guild of scholars—it was a guild of masters; they formed the corporation; they made the statutes; they laid down the laws regarding the educational work of the institution, the method of teaching and all the rest of it; and that is the type of university which, through its connection with Oxford, we in the English-speaking world have become so familiar with. I do not want to dwell longer on either of these institutions; but I do desire to call your attention to what I consider the essential, the peculiar function of this Parisian guild. It was a guild of doctors. Now, every guild had the right to regulate the conditions of membership. What more natural than that these masters should also lay down the conditions under which others should join the guild? The process of joining the guild, or, rather, the act of joining and being initiated, was called inception or commencement; and that is the origin of the word by which we describe the close of the scholastic year. The student who had satisfied the requirements laid down by the guild of doctors was incepted—commenced—as a teacher; and the inception process, or act, consisted of giving, as he would be required to do when he became a master, a lesson to the stu-

dents, after which he was invested with the ring and the book and also with the cap, and I may add that here too we have an interesting survival of that process. We now charge our students a fee for their diplomas; I do not think there is any university or college which grants them without it. That fee, ladies and gentlemen, is commutation money; and what it relieved the graduates of earlier centuries from was the necessity of entertaining the members of the guild into which they were being admitted at an expensive banquet, and of presenting these learned dignitaries with caps and canes and gloves and sweetmeats. Thus, in those days the idea of a newcomer paying his footing prevailed alike among the professorial bodies and among the students. Such, then, was the original meaning of our term "graduation." And when I say that the essential features, the time-honored usages and traditions of our modern universities, all go back to the two typical institutions of Paris and Bologna, you will see from the examples I have adduced (if there were time I could mention others) that considerable justification can be adduced for the assertion.

Without lingering longer over the historical side of the case, let me invite your attention, in the next place, to what seems to me the characteristic features of these institutions. The first is, no doubt, that indicated by the name "*studium generale*," a university is a place of general resort. It is a place to which students come, not only from the neighboring locality, but from a variety of localities. That was the fundamental idea of the "*studium generale*," or primitive university. But that was not all, even then; for, although it was the dominating idea, it was always implied that there should be at such an institution, first, a plurality of masters and, secondly, that at least one of the professional faculties should be included. I have mentioned already that there are exceptions even to that rule: Erfurt and Saragossa were simply faculties of arts; but the exception does not, after all, detract greatly from the validity of the general statement I have made, that, along with being a place of general resort, the "*studium generale*," or university of the middle ages,

was an institution where there were a number of masters, and where at least one of the professional faculties was to be found.

But there is another point to which now, in the second place, I wish to call your attention, and it is this: that the universities of the middle ages laid stress—as it was inevitable they should lay stress—on personality. They had no books; they had no buildings; they attended lectures either in the teacher's house or in rented rooms; and that very fact—the absence of all sorts of material and mechanical appliances—tended constantly to bring teacher and pupil face to face. The fact that the first universities had no material equipment, neither houses nor property, always made it easy for them to migrate; and migrations, or boycotts, were a remedy to which they had frequent recourse; and it was in that way that the corporation of students in Bologna could domineer over the masters. It was a profitable thing to have a "*studium generale*" in a city; but if the professors and the city authorities refused to do what the students wanted, all that was necessary was to boycott them and go elsewhere. Even Oxford University suffered boycotting in the same way, and until very recent times graduates were required to swear that they would not found a "*studium generale*" at Stamford, to which there had been a migration centuries ago.

But to return to the point from which I have digressed. It is interesting to see how great personalities, not only maintained these universities in their vigor, but lay, in a certain sense, at the foundation, if not of all of them, at any rate of the two typical institutions we know most about—of Bologna and of Paris. Ladies and gentlemen, the University of Paris came into existence at the close of the twelfth century. Abelard had come up to Paris as a student to study under William of Champeaux, who taught in the cathedral school, and he soon found himself, as he deemed, superior to his master and called in question his teachings, which of course was a mortal offense at that time, and he was persecuted for it. I have not time to go into the history now, but it was by the work which he did in dialectics, or metaphysics, and in theology that the atmosphere of France,

of northern Europe, was prepared in the course of one or two generations for the foundation of a "studium generale;" and it is because Abelard lived and worked and taught that the University of Paris became conspicuous for its theology, and not, for instance, as Bologna did, for law. Again, at Bologna—which, as I have mentioned, was founded about the same time as Paris, a little earlier, somewhere about the last third of the twelfth century—in the middle half of the twelfth century there lived a great lawyer named Irnerius; and Irnerius introduced the study of the Roman law—not, indeed, of parts of the Roman law, for that was already in effect in Bologna and possibly in other institutions in northern Italy—but he it was who first introduced the systematic study of the whole *corpus iuris civile*; he it was who laid stress on the professional study of law, on the scientific study of law; and because he lived and did the work he did, it was possible, a generation later, for the University of Bologna to blossom forth; and whatever other characteristics belonging to the mediæval universities we may in modern times abandon, let me assert—and assert here, I know, without fear of contradiction—that we never can have a university without having men to make it (applause).

The third characteristic to which I should like to invite your consideration is this: the universities of Paris and Bologna and all mediæval universities sprang out of the practical needs of the people. I do not know whether there is anyone here who is disposed to call that utilitarianism, or to go further and brand it as commercialism; but, whether these terms be used or not, the fact is beyond contradiction. Salerno, as I have said, produced a school of medicine. Salerno was a health resort, and invalids came there; the climate was salubrious; there were mineral springs in the neighborhood; and a medical school was a necessary, or at any rate, was a very advantageous addition to the attractions of the place. It grew up naturally in connection with these needs. In the same way, as I have already said, Bologna and the cities of northern Italy had before them that great practical problem—for it was much greater in the middle

ages than now—of maintaining law and order and liberty. They inherited the Roman law as a system by which these results might be achieved. The foundation of the school of Bologna simply met an existing practical need; and if someone thinks that Paris, or Oxford after Paris, founded institutions for the cultivation of knowledge or learning as such, let me point out that Paris and Oxford, too, were in their inception, as they remained for a long period during this early history, mere professional schools. They had their faculty of arts; and, therefore, I ought not to have used the term “mere professional schools”—they had their faculty of arts, that is true; but dialectics and theology ministered as much to the practical and urgent needs of the men of northern Europe as law did to the people of northern Italy; and, furthermore, in northern Europe all the lay professions were open—were practically open—only to churchmen; so that it is quite true of Paris and Oxford as it is of these other institutions, that they met practical intellectual needs. In this connection I think it is worth while observing that the university of our day, which supplies schools of applied science and medicine and law and veterinary science and architecture is playing the same part in the closing years of the nineteenth century as these institutions of Bologna and Paris did in the twelfth and thirteenth centuries. They are ministering to the practical and intellectual needs of our people. I do not use “practical” in any low and narrow sense in either connection; my meaning is simply this—that the people of mediæval ages and the people of these modern times have a certain work to do—certain callings and professions which they will follow; and that a university, now as then, has to set it before itself as aim to teach the sciences and supply the intellectual training which enables the followers of these pursuits to discharge their duties more efficiently. I mean, however, nothing low in the conception of education—far from it; I am simply insisting that the conception of today shall be broadened so that our universities shall be to our generation what those mediæval institutions—“*studia generalia*”—were to theirs.

And the next thing which I want to emphasize is this: that the history of universities from the time of Paris and Bologna down to this very year, proves one thing—that if they are to do their work well, the teachers must be absolutely free (applause). Knowledge is a thing which cannot be commanded. The truth of propositions cannot be established by councils or by tyrants, whether those tyrants be aristocratic individuals or whether they be democratic communities. We have to discover the truth the better to teach the truth; and as we know from our own experience, so the history of these institutions proves, that that work is done efficiently, so that we are true to the ideal of our vocation, only when we can be absolutely free. There has been some talk of late in our own country of the accountability of the universities to the public; and we have been told by reputable organs of opinion, that while liberty must be, of course, conceded to the universities, license will not be tolerated. Ladies and gentlemen, there is no liberty in things intellectual unless it is absolute. Of course, if a professor is immoral—if he violates the laws of decency or propriety—he is dealt with on that ground; but in things intellectual it is absolutely impossible to lay down any limit whatsoever except this; that teachers must teach and discover what God gives them to see of the truth (applause).

I wish I had time to illustrate the baneful consequences of interference with the right of teaching in some of the greatest universities of the world. I have alluded to Oxford once or twice; let me once more cite from its history. The Tudor kings regarded Oxford as an instrument of statecraft, and the position of the university—its officers too—were changed with every change of administration. When the Stuarts came in, Oxford University passed a solemn resolution that it was illegal to resist kings; and that was repeated during the worst period of the Stuart government. The Stuarts interfered with the election by the fellows of the heads of the colleges. They had favorites of their own (altogether unqualified for the places) whom they desired to see put in them.

But the whirligig of time brought its revenge. The follow-

ing century was one of the lowest in the history of Oxford University. It was a period of stagnation; and when Gibbon was there in the middle of the eighteenth century he declared that the university professors had practically given up teaching, that the college tutors and professors passed their day in a monotonous round of employments in chapel and hall; and they retired in the evening to bed exhausted and satisfied with a long round of indolence and indifference. And Jeremy Bentham, who came only a little while afterwards, tells us that whatever else Oxford education might have produced, there were two features on which everyone could count: these were mendacity and insincerity. Once interfere with the liberty of teaching—once put any kind of authority over the man who occupies a university position other than that of his own intellect and conscience, and the results which Jeremy Bentham described at Oxford University, will inevitably follow.

Now there is another matter to which I should like, in the next place, to invite your attention. You have been discussing today the relation between colleges and universities. And my friend, Mr. Dewey, is anxious, I believe, to get up a league of what he calls small colleges; and I suppose the league will change from year to year because these colleges are all progressive; and after a little while they will cease to be small colleges and the league will break up. But it is supposed that you can lay down certain marks which differentiate the college from the university, and that it is exceedingly important at the present time that a clear line of demarcation should be drawn. I shall not undertake to draw that line; but I do want to make a few observations on the historical relationship between the college and university. If the university, as I have said, is comparatively new (the oldest not more than eight hundred years old), the college is younger still. The college is the successor of the hostel, or boarding house. The college, in its earliest form (ladies and gentlemen, I speak respectfully of the colleges) was a mere organization of students under one of their own members whom they elected as head or principal for the purpose of

providing for board and lodgings. The university had no kind of homes for the students, who were compelled either to live in private houses, or a group of them might take a house by themselves and organize in the way I described. These were originally called halls; and at Oxford University last summer I found and took much interest in visiting the sole survivor of that venerable system, St. Edmund's Hall. The other halls have all been turned into colleges. I will speak of the transition in a little while, but I am very anxious to impress upon your minds the fact that the college originally was simply a hall of residence, or, better still, a boarding house taken by a group of students who elected one of their own number as head of the hall. He did the catering, and he administered their self-imposed statutes.

We hear it said sometimes that colleges are a peculiarity of the English-speaking world. Never was there a more misleading assertion. The halls out of which the Oxford Colleges have grown were a universal institution. Such halls or colleges existed in Bologna, in Paris, in various German and Spanish universities, and elsewhere. To this day the oldest of the universities, Bologna, has still its College of Spain, which was a boarding house, founded or endowed by a Spanish ecclesiastic soon after the establishment of the university itself. And in Paris, at the close of the fifteenth century, there were at least fifty such halls, and they were almost all called colleges there, although their functions were scarcely at all different from those which I have just described as the halls. There were some fifty of them, I say, in Paris at the close of the fifteenth century. The transition from the hall—from the voluntary organization of students, with one of their own number as agent, caterer, or principal, to what we know as the Oxford College, was effected in this way. By degrees the university authorities found it expedient, for the sake of discipline, to get some control of these halls, and so they managed in time, by a process which I cannot now describe, to get a voice in the appointment of the principal. That was the first step. The next step was this: when money was left for the endowment of such boarding

houses, or halls, it was provided by some benefactors that instruction should be given to the boys in the colleges to supplement, of course, and prepare for the instruction given in the "*studia generalia*," or the universities themselves. The Paris halls never got beyond that intermediary stage. They, in their highest state of development, remained boarding houses, over which the university exercised a kind of supervision, and in which there were fellows, or masters, or teachers, who aided the boys in preparation of the university work. But the Oxford institutions underwent a third stage of development, and that was due, one might say, to the accident of endowments, and notably to the endowment of Merton. Merton College was founded about 1264, becoming the model of all subsequent foundations, and Walter Merton, who founded it, provided that there should be, in his college, a number of fellows who should be maintained out of the endowments he left for that purpose, and that these fellows should have charge of the property. That is the unique feature about the Oxford institutions at this period. They became corporate land owners. And let me say in passing, one could not have a more splendid justification of the wisdom of these princely benefactors, for of all the endowments that have been left to Oxford and Cambridge Colleges not one has been lost; whereas, in the case of the Parisian halls, where the endowment was left to outside corporations, in nearly every case it has disappeared, and the only remnants we have of these Parisian colleges are the names which they have given to a number of the streets in the Quartier Latin. This was the final stage of development through which the students' boarding house passed. It became a college, in which instruction was given the students, but still merely supplementary to the work of the university. But in those degenerate centuries, which I described a little while ago, when Tudors and Stuarts were interfering in the university, and when its functions fell into disrepute, the good work was done by the colleges; the colleges were progressive; the colleges adapted themselves to the needs of the time; the colleges were champions of the new learning

The university, in all its functions, fell practically into desuetude; and it is only within our own century that we have seen Oxford University, as distinct from the colleges, taking on new life, appointing university professors, and making provisions for university instruction and for university research. But before that change had taken place there had come migrations to this country, and the American college had been set up; and the American college we set up was intended to conform to the Oxford College of the day, or the Cambridge; and John Harvard came from Emmanuel College at Cambridge. There was then a congeries of college institutions, while the university out of which they grew, and to which they originally were mere boarding houses, was practically defunct.

It is unfortunate for our higher education that our colleges originated in that way and at that time, but such is the fact. You know how in this country the college has, in some cases, been transformed into the university, and what problems we are grappling with today in order to adjust the relations between them. I do not know how the relations are to be adjusted, but I am confident from the point of view of the university (and I say it out of no spirit of hostility to the colleges, for I believe the colleges are going to continue and do a more important work than they have done) that it is a mistake—a fundamental mistake—if you suppose, ladies and gentlemen, that the colleges in this country, or in any other country, are going to take over a large portion of the work which the universities here are doing, and which the universities have always done. Some gentlemen suppose that a university is a collection of professional schools. It never was that; it will not be that here. There will always be in the universities, as there has been in the past of all the great universities, what we call the academic department, and what the Germans call the *philosophische Fakultät*. The colleges are not going to take it from the university. The university, without that, would be robbed of its most important department and would feel the loss of its best and noblest inspiration. That is going to stay; but there is no reason why, if the university

retains these various departments and functions which historically belong to it, the colleges should not also work, if you like, along the same lines—or, if you like, along other lines. There is room for us all. It is a field broad enough for generous rivalry and emulation. We can all put in our oars, and we will all find abundant water to row in. But there is one thing which I think the universities and colleges must keep especially in view, and that is what Mr. Rashdall says characterized the universities of the middle ages from beginning to end—they trained up a race of educated men to administer the affairs of the world. That, and nothing less than that, must be the aim of our own higher institutions of learning. And in pursuing that aim, along however various lines, I see no reason why there should be friction, or jealousy, or envy; why, on the other hand, there should not be the utmost good feeling and hearty and cordial brotherhood between our colleges and universities and the men in them who are dedicated to the high work of educating the rising generation and upholding and extending the divine light of knowledge (applause).

WHAT IS THE CONSENSUS OF OPINION AS TO THE PLACE OF SCIENCE IN THE PREPARATORY SCHOOLS¹

By PROFESSOR R. S. TARR, of Cornell University

Within the past ten or fifteen years there has been a progress in the natural science teaching of the secondary schools that has not been equaled in any of the other groups of studies. There was need enough for it, and indeed there is still need of much more. Many schools have made no progress, while in others, science teaching is on a very satisfactory basis.

Science instruction found its way into the majority of schools at first merely to satisfy the demand for information. The parents wished their children to learn something about the laws

¹ The endeavor in this paper is to present merely what it is believed nearly everyone will agree to, and not to go beyond this.

of physics, for instance, as many now wish their children to learn something about the trades while in school. Advocates of each science clamored for a place in the curriculum, which was already well occupied by the standard subjects, and to meet the demands that were made, the best that could be done was to give something that could come from a few weeks instruction by text-book study. Many schools still pursue this method; but the best have added laboratory courses, which have been demanded, when, by slow degrees, it seemed well to endeavor to impart training, as well as to give information in science study. The laboratory study is now a prominent part of science work, in the best schools, as it has also come to be in the majority of colleges.

At first, science was taught by the text-book solely, and not necessarily by teachers trained in science work. At present it is more commonly in the hands of science teachers. Their training is often of the best, but they are frequently handicapped by the fact that they must teach many sciences, and hence some of them very poorly. Even now science teaching is in many schools given as extra work to teachers trained in the humanities.

In considering the present status of science teaching in the preparatory schools, it is exceedingly difficult to state the case briefly and still correctly; to most statements there must be many qualifications, because of the great variety of conditions. This much is certain, that in the majority of schools there has been progress, and in some cases a most encouraging advance. The experience of Harvard proves in a most conclusive manner that schools can, and that they do even now, give instruction in physics and chemistry which may be considered a fair equivalent of college work, and may certainly be placed side by side with the older and better established college entrance requirements in point of mental discipline. Harvard believes that the time has come when some of the *other* sciences may also be recognized, and now the proposition is issued from this great institution to accept for entrance to the university several other

sciences than the original physics and chemistry. That no mistake is being made everyone must admit who has given close attention to the preparatory schools. Not only are there now schools in which the physical, biological, and earth sciences are well enough taught to take rank with mathematics and languages, but their number is increasing at a rate that is gratifying.

I feel like insisting upon this point of progress, because, although it is well known to most science teachers, it is not yet so fully grasped by the teachers of mathematics and the languages, especially those in the colleges. It is an important point, because it is only upon the basis of this condition that preparatory school science can expect recognition from the college. So long as many believe that the schools in general are now in the same condition that they were ten years ago, and where unfortunately many even now are, opposition to the recognition of science as a college entrance requirement will be strong.

A second point that I make confidently is, that science teaching in the secondary schools has taken a prominent and unsailable position. The day when it could be considered experimental is past. Not merely is there the original demand for science for the sake of the information which it conveys, but also at present a much stronger demand for science because of the *training* which it is capable of imparting. Without detracting a particle from the value of language and mathematical training, it may be claimed that from no other class of instruction can we obtain the important discipline which properly taught science furnishes. The value of a science training need not be discussed here. We may take it for granted, as a fact amply proved by a long experience. In disciplinary value, properly taught science has established its claim to rank with properly taught language and mathematics. The three go well together, and together furnish a well rounded training. Without *either* one, the educational system is weak.

Science in the schools has taken its position only after a hard fight on the part of its votaries; it has received few favors and has struggled on against many odds, until now it has become

a firmly established part of the high-school curriculum. Its position has been won through merits of its own, but the fight is still on. The battle is only half won. The secondary schools lead to the college, and, rightly or wrongly, the teaching staff, and subjects taught, are in large measure subordinated to the demand of the few who would go to the college. What the college demands for entrance, is taught, and what is taught for this purpose is necessarily well taught; otherwise the end in view will not be attained. In many cases, where, as is so common, but few teachers can be employed, these are likely to be selected with reference solely to the demand of the college; and the subjects that do not belong among those fostered by the college demand, are neglected.

This is one of the most serious obstacles that has lain in the path of science and science instruction in the preparatory schools. This branch of learning has been discriminated against and has gained its present position only against decided odds. This leads to what I believe may be stated positively as a third point—that the time has come when the science teachers of the preparatory schools have a right to demand of the college the removal of this discrimination, and that they owe it to themselves to make this demand strongly and positively. Harvard has shown *how* this may be done and that it *is* within the bounds of possibility; and Harvard is by no means alone in this position, although many of the larger institutions of the East still decline to consider science, whether well or poorly taught. The time is at hand when we of the college should let it be known what we consider to be genuine science instruction, and to announce that such instruction will be accepted for entrance to college on the same terms with the other subjects. By this I do not mean that the student should be allowed to enter college solely upon the basis of a training in science, any more than I would hold that one should be admitted solely upon the basis of a classical training.

This demand for recognition should be made not merely on the basis of justice and encouragement to science itself, but also

in justice to the parents, the schools, and the pupils. The parents demand science for their children and they should not have pseudo-science forced upon them in small, fourteen-week doses, because the two or three teachers for whom they help pay, must teach the two or three groups of studies that the college demands, leaving science to take what it can. The schools as a class need the encouragement of college aid, for while upon sound pedagogical principles it is known that only *genuine* science instruction is desirable, since their greatest energies must be given to fitting the *few* for college, they are unable to satisfy the demand for adequate science instruction, because, although called for by the many, it cannot be used by the few for whom the teaching staff is mainly selected.

The pupils, whatever their future, need science training. What is best adapted to train children to study further in college, should be that which is best adapted to prepare them to take part in the life work. The many do not go from the preparatory school to the college. It is only the few. This small minority should not control the school curriculum, and the way in which subjects are taught. That which is best for the majority should be decided upon and given in the way that will furnish the best results. Many pupils who are under the impression that they are getting a science training in the preparatory schools, are in reality gaining only a jumbled smattering of science information. The college, as a part of the educational system, should do what it can to improve the education of those who do not go to college. Its entrance requirements should include all those groups of learning which are well fitted to train the mind for use in life, and science study is surely one of those subjects, as it is also one that is needed by those who enter the college. Therefore I make the claim that science of the genuine kind is needed by all classes of students who go through the preparatory school. That it is not always possible for the pupils to obtain it, is partly due to the fact that the college grants to it no recognition.

While it is my belief that the time has arrived when the college can fairly be asked to take cognizance of secondary school

science, I insist that the science recognized shall be genuine in all respects. The fourth point that I would make as a general statement of conditions, is that there is now altogether too much pseudo-science in the schools. For this no one should ask recognition. It must be gradually eliminated, either by improvement or by being taken bodily out of the curriculum; and the surest way to bring about this end is to mark it as false, and for the college to decline to consider it as science. It does no good to any class of students; and I believe that it may be fairly stated that instead of doing good it does positive harm by taking the place of older subjects so well developed that they *can* be taught in such a way as to give valuable training to the student.

Most if not all teachers will agree that under the present conditions, in most schools, too many sciences are admitted. The attempt, therefore, to introduce new subjects, as the Committee of Ten have done in the case of meteorology and physiography, ought not to meet with success in most schools, unless either more teachers are forthcoming, or some other subjects are replaced by them. Where there is either no regular science teacher, or at best but one, the *number* of sciences taught should be distinctly reduced, and the *time given* to each subject lengthened, and the methods made scientific. No science should have a claim to recognition among the college entrance requirements unless it has been taught for at least one year by approved methods, including a considerable share of laboratory work. Science so taught for *one* year should be accepted in lieu of an elementary college requirement in mathematics or the languages; and the science subject so taught for *two* years should be considered an equivalent of an advanced subject. There should, however, be a distinct limitation placed upon the *number* of sciences which any one pupil may offer, although, *each* science should be so recognized that any student may offer any one of them.

Under the present conditions the teacher of science in the secondary schools may be almost anything, a high-school grad-

uate, a normal-school student, a college student working his way through college, or recently graduated from it; or in some cases he may be a man splendidly trained both at home and abroad. Naturally many mistakes have been made in selecting teachers. Some who are well trained cannot teach, and some natural teachers have been distinctly injured by being encouraged to begin their work before they are really ready for it. As I view the matter, one of the most fundamentally important mistakes, and one very generally made, is to try to find a teacher who knows all the science subjects. There is of course no such man, but oftentimes, in the course of a search for a competent science teacher, a man who has studied all the sciences in a small institution under a single instructor is successful in competition against a specially trained man, who cannot bring testimonials from a whole faculty of science.

I would urge that one of the crying needs of the schools is to be rid of the smatterer. Look for a teacher specially *trained*, or at any rate specially *interested*, in one science or group of allied sciences. Let him develop this to the best of his abilities, and this science, at least, will be well taught, and will find recognition in the colleges that accept science. Even if, through demand from the parents, he is obliged to teach the other sciences, he is certainly as well able to do it as can be expected of a man who is ordinarily required to pretend to know all the natural sciences. It would be unfortunate if he *were* required to teach all the sciences, but probably under the conditions at present existing he would be. But at least give a chance to teach *one* thing well. Such a teacher can prepare a man for college in one subject; and there are many such men now teaching in the schools and now ready to send pupils to college as soon as the college says the word—and when the word is spoken, very quickly other similar teachers will appear.

When a teacher is expected to know all about physics and chemistry, zoölogy, physiology and botany, and geology, and physical geography (perhaps with meteorology, physiography, and astronomy added), one can hardly expect him to do high-

grade work. If, however, he is expected to *know* only one or two of these, he *may* be called upon for good work. Such a man will not hear recitations merely, and then consider that he has done his duty, because it is all that he can do, but will introduce laboratory work in at least one of the sciences. I am not certain that there is a consensus of opinion in favor of this proposition, but I believe that it is safe to hold that the science teacher to do his best work, and to give science instruction such as the college should demand, *must* be specially trained in one of the three groups of natural science. This seems to be proved by the experience of many of the best schools. Also where such a teacher is required to give instruction in other sciences, in which he is not specially trained, the quality of his teaching will be very much better than that of the one who has *no* special training or interest. The very fact of his knowledge in one group gives him ideas concerning methods, and a training, which to some extent, can be applied to any class of science teaching.

Whether, or not, there is a consensus of opinion that science work, and other subjects as well, should be somewhat elastically elective in the secondary schools, I am unable to say, though I should think that there should be such a consensus. There is such a wide range of tastes among the pupils and parents that some opportunity for its gratification should be allowed. My ideal would be to have it possible for the pupil to take *one* science that is well taught, if he chooses, or, if more than one science is well taught on approved methods, to allow him to choose which one he should take, or possibly even allow him to take two. The question which group of sciences should be selected for a place in the schools seems not to be a serious one. Any one of the three groups is capable of giving valuable training. Let the choice of the group be a matter of chance, if necessary, take the one in which the teacher is most interested, or for which the school is best equipped, and develop that, and in all future time choose the teacher whose training is along this line. This will save expense in laboratory equipment.

The ideal would be to furnish a specially trained teacher for

each of the three groups, so as to insure a high quality of work in all the sciences taught, and this is the ideal toward which the report of the Committee of Ten, if followed, would lead. Under the present conditions it will be found almost impracticable, but we should strive toward it and attain to it, whenever and wherever possible. The most important thing is to have the schools furnish a genuine science training, and to gain this end special provision should be made in each school for one group of well taught sciences. It seems to me that it makes little difference whether the group selected is physics and chemistry, the biological group, or the earth sciences—either one will give the requisite training, if properly taught. In some schools facilities favor one of these groups, in others, another. To properly encourage science instruction the college should accept any one of these groups as an elementary entrance requirement, with the understanding that the particular group selected shall be well taught in accordance with the best scientific methods.

There is a general consensus of opinion upon this point, that genuine science instruction should be of disciplinary value. It should not merely teach facts, but should be so taught that when finished the powers of thought shall have been distinctly improved. By general consent it is agreed that laboratory work is the means to be employed to gain this end. The rapidity with which laboratory study of science has pushed its way into the schools is most gratifying. It has come to be almost the rule among good schools. Any recognition of preparatory school science by the college must take account of this and aid the tendency toward better laboratory work by making this mode of study a part of the requirement.

My next point may to many seem heretical, and I can hardly claim for it the general assent of science teachers which I believe most of the preceding statements will receive. Nevertheless it seems to me that in the enthusiasm for the new, there is a tendency in some directions to overlook the importance of the old. I would not be understood as underrating the importance of laboratory work, nor as being so conservative as to advise

adherence to the antique methods of science teaching even now in vogue in many places. I do hold, however, that the original demand for information upon science subjects was based upon a distinct need, and that this should not be overlooked; and I would urge that this cultural value of science be not forgotten. The discipline of laboratory work need not be subordinated in accomplishing the end.

The most uncertain of all of the points in science teaching that have come to my attention, is *what* should be taught and when it should come in the course. At first this seemed to me one of the most discouraging features in the problem of secondary school science; but the more I think of it the less weight I place upon the fact of this distinct difference of opinion. I have come to believe that the essential point is to have at least one group of sciences properly taught. *When* this shall come, and what shall precede and follow it, is of less importance, and will in many cases depend upon the individuality of the teacher and upon the school location. There will always be differences of opinion upon this point. The best and clearest statement of the subject is that of the Committee of Ten. Many of the best schools are shaping their courses as far as possible in harmony with the recommendation of this committee, and while I do not find myself in close agreement with all of their suggestions concerning the order of the curriculum, I believe that they lead nearer to the ideal than anything else so far formulated. It seems certain that by following these recommendations a step in advance will be made.

The question of science instruction in the preparatory schools is vitally associated with that of geography study in the schools of lower grades. If there is no such agreement, there certainly should be a consensus of opinion that, of all subjects in the schools, the worst taught is geography. The reasons for this are many, and the remedies are not easy to find. It is not my intention to enter into the consideration of this large subject; but I do feel called upon to protest against the present geography instruction, and to call for a careful consideration of this

subject by superintendents and normal-school teachers. This is done not merely for the sake of the pupils who are being imposed upon, but also for the sake of the science teaching in the secondary schools, with which we are now particularly concerned. When geography is properly taught, science study in the preparatory schools may be expected to produce vastly better results. The two questions cannot be definitely and properly separated.

There is one science whose place in the preparatory schools appears to be fairly well determined. This is physical geography which the Committee of Ten places in the first year of all the preparatory school courses in its tables. While this is not uniformly adopted, the last few years have witnessed a decided move in the direction of this recommendation. A year of physical geography, better in the last year of the grammar school, I believe, or, failing this, in the first year of the high, follows very naturally upon the preceding study of geography. It arouses an interest in science, furnishes a great deal of desirable information, and if properly taught, imparts a valuable training in observation, the collection of facts and reasoning from them. This subject not merely connects geography and the various sciences in the secondary school, but it serves as a very good *introduction* to this science teaching.

In conclusion I would say that it seems to me certain, as a most important point, upon which all science teachers should agree, that the process of science instruction, which has been truly remarkable, and is still continuing to be made, is such that science teachers have the right to demand that science, when well taught, may properly be placed among the list of college entrance subjects. This I believe is the next step to be taken, and the time for it is ripe. It cannot be said that *all* schools have reached the stage when they may make this demand; but a very large number have. Their ranks are being constantly swelled, and will receive even more notable accessions as soon as science is regarded by the college as a branch of education equal in value with the better established divisions.

I believe that a general move should be made by the teachers of genuine science to secure college recognition of the success that science teachers, almost unaided, have attained.

WHAT IS THE CONSENSUS OF OPINION AS TO THE PLACE OF
SCIENCE IN THE PREPARATORY SCHOOLS?

By C. C. WILSON, of Jersey City, N. J.

The first professor of physics and chemistry in the United States took his chair in the College of William and Mary in 1774. About seventy-five years later, scientific schools were started at Harvard and Yale, and the Smithsonian Institute opened its doors. It was not till 1865 that the first physical laboratory for the use of students in the United States was opened by Professor E. C. Pickering at the Massachusetts Institute of Technology. Scientific science teaching, that is by the laboratory method, has, therefore, been developed within a period of a little more than thirty years; and the greater part of the growth has taken place during the past ten years. As an instance of the rapidity of this growth your attention is called to the fact that of the twenty-one representative colleges and universities reported upon by the United States Commissioner of Education in his annual report of 1886, seven, or just one-third had science requirements for admission. By reference to the report of the committee on college entrance requirement in the *SCHOOL REVIEW* of June, 1896, you will find that fourteen, or just two-thirds, of the same twenty-one institutions have science requirements for admission. Nor is that all; a comparison of the two tables shows a substantial gain both in quantity and quality of such requirements. When you compare the present condition of science, both in the secondary schools and in the higher institutions, with that of a few years ago, the development seems little short of marvelous. But the change has not taken place without a contest. The war has been, for the most part, between Latin and Greek on one side and the physical

sciences on the other. The third member of the ancient triumvirate, mathematics, has caused little contention. Indeed the tendency has been to increase the amount required without serious protest from either side. English, history and the modern languages have also come in for a share of the discussion; but the real tug of war has been, and is, between the classics and the sciences.

The contentions of the classical advocates were these:

1. The classical programme embodies the best thought of the best minds, and it has to show as its products the majority of the master minds of the past four centuries. It has stood the test of time, and is entitled to the consideration that attaches to an established position.

2. In spite of the fulminations of the scientist, practically all of the colleges still require the classics for admission, and this is a strong presumption in their favor.

3. The mastery of the traditional subjects renders the mastery of other subjects relatively an easy task.

4. Experience has proved that when different courses in secondary schools are offered, the superior students almost invariably choose the classical course.

5. The classics, as a means of securing that general training which prepares the youth for meeting successfully whatever emergencies may arise in life, have no rivals.

6. The proper effect on the minds of the pupils cannot be produced without prolonged study, and anything less than the time now given them in the preparatory schools is inadequate.

7. The superiority of the classics over living languages which the scientists would substitute for them, lies in this: a living language does not so readily lend itself to purposes of dissection and grammatical formulation as does one that is no longer subject to evolution, hence the study of the classics can be made more scientific than the study of modern languages. Besides the ease of acquisition of the modern languages impairs their efficiency as disciplinary studies.

8. The intrinsic merits of the literature of the classics are

such that there comes from their study a mastery of style, an elegance of diction, not to be secured in any other way. Moreover, the arts and letters of the civilized world are Greek, as its laws and history are Roman; and to study a subject scientifically you must study its embryology.

9. The introduction of the sciences in the programmes means a loss to the system without any assurance that the new subjects will make good the loss.

10. It is essential to any proper mental training that a lad should master not only what he likes, but what he does not like. Science studies, because of their showy character, are attractive to the immature; so pupils, if given their choice, will take the sciences and drop the more difficult culture studies.

11. Too much science study tends to lower our ideals, and will cause us to degenerate into a mere money-getting and pleasure-getting people.

12. The constant use of the more rigorous and exact methods of science tends to unfit men for dealing with human questions which are more inexact in their nature.

13. The student of science is always exercising his intelligence on a limited part of human experience, while the student of language in the extended sense may be said to be always in contact with the whole. The humanities, alone, truly educate a human being.

On the other hand, the scientists argue:

1. The sciences are a most valuable aid to work in language, since the written result of every experiment is an exercise in English.

2. Science study, more than any other, gives discipline of the powers of observation, of logical thought, and accurate description.

3. The classical students are broadened by contact with science study, just as the scientific men are more liberal for having studied the humanities.

4. Among studies of equal disciplinary value the true criterion is the use that may be made of the subject in future work.

5. The influence of the study of science on modern thought is shown by the terms "laboratory method" and "scientific method" as applied to economics, history, and even language and literature.

6. The marvelous industrial progress of Germany, as compared with that of other European countries, is due to the superior skill and wisdom of her men of science; and every student when he enters the university has had nine years training in science work.

7. The study of the sciences, especially of the experimental sciences, induces a love for experimentation, investigation and discovery.

8. The ignorance of natural laws is the basis of all degrading superstitions. The study of science more than that of anything else demonstrates in an intelligible way the reign of law in the universe.

9 Each age brings new demands. The scholastics have had their day. It is supreme folly to ignore science, the applications of which are such an important factor in our life of today. Through the study of science every child is better fitted to cope with his environment. Strict humanism means education today in what was the best thought of the human race five hundred years ago. It ignores the grand achievements of the age. The old is out of harmony with the times. It is narrow and not liberal as it professes to be.

10. The utility of all science and of all knowledge consists in an ability by the aid of it to foretell the future. It is the study of science that most surely enables one to predict. The exactness of the science of astronomy is a case in point.

11. Nothing but stern objective realities can constitute a safe foundation for any future moral or social system. It is the special merit of science that it tends to bring the world back to nature from which it has so far wandered.

12. The claim of the classical advocate that energy created by activity flowing in one channel may be turned at will into any other channel is only a partial truth. If an effort is made

to turn it into a widely different channel much is lost by leakage; just as in converting energy of chemical union into the energy of the electric current a very large percentage is lost in the act of transformation. Hence the needs of the times demand a wider range of subjects than is offered by the classical programme.

13. The contention of the classicists that their plan is complete for all time, that they have staked off the bounds of human endeavor as regards the necessities of the growing mind, is practically a declaration that the process of evolution is suspended.

At the beginning of the controversy the scientists held that a certain kind and amount of science was a proper preparation for higher education. Their opponents denied it; but in time they came to admit that for pupils who were not going to college science might properly form a part of the curriculum. Then the scientist argued that a considerable number of pupils who elect the general course, decide late in the course that they desire to go to college; and it is unwise to cut them off from the higher intellectual life on account of a failure to foresee their necessities. Their opponents no sooner showed a disposition to weaken on this point than the scientists came out strongly in behalf of the proposition that what prepares a young person for his life work ought also to prepare him for college. From this it was but a step to the doctrine of the equivalence of studies having the same time allotment.

The truth is, there is almost an infinity of good things that can be said in favor of almost any rational subject of study, if presented under ideal conditions. But ideal conditions do not obtain. Hence it is always possible, if a speaker or writer is so disposed, to paint the results of any subject, as it is actually taught, in sombre colors; and the weakest of all argument, ridicule, is not infrequently employed. It thus comes about that there is much rhapsodizing as well as much unfair criticism on both sides. It very soon becomes apparent to a reader of the mass of literature published during the past ten

years on the respective merits of the classics and the sciences that much of the argument is fundamentally weak. The contest at times loses its legitimate dramatic character and takes on the features of an extravaganza. Quotations from two very recent papers will serve to illustrate: "Any one, I care not who, can and will derive vastly more good from one year of any natural science than from two years of either Greek or Latin;" and this from another source, "When the machine shops and factories and all the paraphernalia of the applied sciences are imported into the academic shades, and when the perfume of the Attic violet is stifled by the stench of the chemist's crucible, the true purpose of the university is forgotten, and its higher mission is in a great measure sacrificed."

"What is the present consensus of opinion as to the place of science in the preparatory school?" The first man, an eminent scientist, to whom I put this question assured me that the answer, if printed, would read as follows: The preparatory school should give one year of experimental physics, one year of biology, and one year of physiography and physiology. The next answer received—this, too, from an eminent specialist—was this: The consensus of opinion is that there is no consensus; the dispute among the scientists themselves is acrimonious, while the conflict between the friends of the sciences and the votaries of the classics is well-nigh irrepressible. A little later, Professor Davis of Harvard wrote me: "There is no real consensus, unless to the effect that something must be done for science; but there is no close agreement as to what it shall be." The same mail brought this from Professor Butler of Columbia: "In my judgment there is nothing like a consensus of opinion among preparatory schoolmen as to the place of science, or anything else." My first interview inspired me with hope; the second gave birth to a doubt; and subsequent testimony, of which I have accumulated much, makes it clear that the question is too much involved to admit of a specific answer at present. There is no oneness of opinion, in the broad sense; the conflicting interests are manifold. Yet there is, probably,

after all, a unity in the midst of diversity if it could only be found. The most that can be hoped for now is an approximation which, on the main question, can be little more than a plurality vote; on certain specific questions, however, the approximation may rise to the dignity of a majority vote.

Since the report of the Committee of Ten was issued four years ago, many secondary school programmes have been reconstructed or greatly modified. The most of the changes have been in line with the recommendations of the committee. The joint conference on scientific subjects held at Chicago passed a resolution to the effect that one-fourth of the entire high-school course ought to be devoted to the natural sciences; and the Committee of Ten declared this recommendation to be a moderate one.

During the months of September and October, I sent out to all parts of the country about 300 circulars asking for various items of information as to the place of science in the preparatory schools. About 200 replies were received. Of these about one-third came from college presidents and professors, very nearly another one-third came from principals of high and preparatory schools, and the remainder came from teachers in secondary schools.

One of the questions was: What is the "due share" of science? Is one-fourth of the entire time too much or too little? Almost 64 per cent. of those who replied favored one-fourth, while 11 per cent. thought one-third not too much. The remaining 25 per cent. were of the opinion that one-fourth is more than justice demands. A few of this last-named class thought one-twelfth of the time enough for science, but the most of them favored one-fifth. Those who placed the share as low as one-twelfth were, in every case, men connected with private preparatory schools. Thus it would appear that three-fourths of those interested in the subject are favorable to the giving of not less than one-fourth of the entire time to science. Yet a study of the recently reconstructed programmes shows that practice here, as in other directions, is scarcely on speaking

terms with precept. I have yet to see a high-school programme, and I have quite a collection, which gives one-fourth or even one-fifth of the entire time to science. A number of programmes have a system of electives so arranged that the pupil may, if he so desires, give one-fourth, or even more than one-fourth, of his entire time to science. The general course in the New York high schools is a case in point. Thus it would seem that it is pretty generally agreed that science should have a larger place in the curriculum than it has hitherto had assigned to it, but that larger place is not necessarily a required one. Various reasons may be given for this state of affairs, but the one having greatest weight is probably this: the most of the colleges as yet refuse to accept for admission any considerable share of science work.

"Should all real science work count toward admission to college?" This question came nearer bringing out a consensus of opinion than any other one asked in the circular. Almost exactly 90 per cent. answered "yes;" but a great many added "if it is *real* science work." Quite a number specified that it should not be made up of scraps, and that it should be laboratory science work.

The question "What is the minimum of time that should be given any science taught in a preparatory school?" brought out the facts that 66 per cent. favored five periods each week for not less than one year, and that 10 per cent. favored more than that amount. So the approximate consensus is that any science properly taught for one full year by the laboratory method should count toward admission to college. This is the actual requirement for entrance credit at Leland Stanford. The sentiment of President Eliot on this question, "It would be a pity if we could not adapt our courses in college to any good teaching in the schools," I find so frequently quoted with approval that it seems reasonably safe to conclude that the day is not far distant when the college will make it possible for the secondary schools to follow their own inclinations in teaching without the fear that their graduates may fail to enter college. Harvard

with her new definitions, including six new options in science, has made a long step in the right direction.

The replies to the question, "Is there a distinct tendency to lessen the number of subjects in science and to devote more time to each one taught?" make it appear that the movement toward making science work more intensive and less extensive meets with greater favor in the West than in the East or South. Seventy per cent. of those who replied think there is such a tendency; but more than five-sevenths of them live west of Ohio and north of Mason and Dixon's line, while of the 13 per cent. who answered in the negative just three dwell within those limits. So the consensus on this point seems to have a distinct sectional bias.

The replies to the question, "Should a year of science offset a year of Latin or Greek as a college entrance requirement?" were peculiar because of their tartness in a great many cases. The other queries only bore incidentally on the question of the classics *vs.* the sciences. But this one touched many in a sensitive spot. "No, never," and "yes, always," both strongly underscored, were the favorite answers. Almost 70 per cent. favored the offset and 26 per cent. opposed it. The rest of the answers were more or less equivocal. Some favored the offset for Greek, but not for Latin; others answered "yes, under certain conditions; and still others thought that it should not at present, but might when the sciences are as well taught as the classics.

The sixth and last question was, "Which is preferable: (a) to divide the time allotted about equally among four branches of science, or (b) to give the pupil his choice between the above plan and one in which he gives two years each to any two of the four subjects offered, or (c) to devote four years to a thorough study of one subject, supplementing it with reading and discussion of the other branches?"

In making a choice from these three plans, the correspondent need not, of course, necessarily indorse any one as the ideal plan. The three are radically different, and my purpose in asking for judgment on them was to ascertain the trend of senti-

ment rather than to get an indorsement of any specific programme. The third plan is a radical one, and I did not expect to find many favorably disposed toward it. Of the nearly two hundred answers received, 43 per cent. favored the first, 42 per cent. the second, and 15 per cent. the third. Those who declared in favor of the first plan may be properly divided into two classes: First, those who really favor giving a year to each of four sciences; second, those who chose that plan because it was the least objectionable of the three. But, of course, the same reasoning could not apply to those who selected plan two or three. Of those who chose plan three almost one-half were college men. But since there were just about twice as many replies received from secondary school men as from college men, it is evident that the sentiment in favor of specializing in the science is somewhat stronger among the latter. Now, if you consider the present state of science in the secondary schools, that the great majority of the schools give only from one-third to one-half a year to each science taught, that comparatively few give as much as one year each to two different sciences, and that almost none give so much as one year and a half to any one science, you must admit that the percentages of answers just given show a condition of mind that is decidedly favorable to the immediate future of science in the secondary school. It indicates, so far as a mere "counting of noses" can indicate anything, that there is a decided growth of sentiment in favor of devoting not less than two years to the study of some one or two sciences. Furthermore, it seems to point to the fact that the one-time hobgoblin, "specialization in science in the secondary schools," which has terrorized the timid and frightened even the bold, is losing something of its supreme awfulness. I am aware that some theoretical as well as practical arguments can be arrayed against it. Among the more potent ones are these: First, it narrows at a period of the pupil's life when a special effort should be made to broaden; second, the pupil is too immature at the high-school age to profit largely by specialization. Now I find that the most vigorous protests against this

alleged narrowing process come from those who most strongly advocate a strict adherence to the traditional lines of preparation for college. That is to say, four years of Latin or mathematics broadens, but two years of physics or chemistry narrows. I have not a word to say against four years of Latin; but it seems to me that something may be said in favor of two years of chemistry. One year well spent gives the pupil a fair start in any science. At the end of a year he has learned the terminology; he has acquired a certain degree of skill in the manipulation of the special apparatus; he knows enough of the elements of that particular branch to give him a glimpse of its possibilities, and his interest is aroused. That is, he has lifted the latch and the door is ajar, but not yet open. At this point he is required to drop the subject, only to begin another which has a different terminology, requires different apparatus and a different general treatment. True, he is still to use the scientific method; but the new work is not more difficult than that which he did a year before, it is only different in kind. The direct line of thought and action must be broken, and this, it seems to me, entails a distinct loss that might be avoided. Any line of reasoning that defends specializing in language, history, or mathematics in the secondary school—and by specializing I mean presenting them for a term of years—will apply with equal force to natural science. I do not maintain that the practice of dropping a science at the end of each term or each year to take up a different one is strictly comparable with that of taking one year of English, then one of Latin, followed by one of Greek and another of French or German, but the two plans have enough in common to condemn both.

But, is it true that the pupil is too immature to make this continuous work in science profitable? An ideal curriculum is one of increasing difficulty from beginning to end. If, then, you can, for example, defend the teaching of physiography in the first year of the high-school course, I do not see how you can consistently oppose continuing the same subject the following year. If the pupil is too immature for the advanced work

of the second year, it must be equally true that he was too immature for the first year's work.

It may be objected that the schools have neither the apparatus nor competent teachers for a two years' course. It must be granted that this is true of many schools, but there are many of which it is not true so far as competent teachers are concerned, at any rate. In the school from which I am a delegate there are at least four college graduates—two of them holding the doctor's degree—who would be glad of an opportunity to conduct two-year courses in science. Nor do I think that this school stands alone in this respect. Besides, the way to get a supply of anything is to create a demand. When more teachers capable of doing advanced work are seriously wanted, they will be forthcoming. Moreover, the questions of apparatus or competent teachers are not germane to the subject, for we are discussing the needs of the pupil rather than what is convenient, or immediately expedient.

Let me now call your attention to another phase of the question. Long before the child begins the formal study of number, he begins to apprehend the nature of quantity. The possession of that kind of knowledge is one of the fundamentals. Without it one can do nothing. It is as necessary to the success of the painter or sculptor, or musician as it is to the carpenter, the blacksmith, or the money changer. A very large share of our experiences consists in making measurements, and although we do not always use the micrometers or the surveyor's chain, the fundamental idea that lies at the base of all our calculations and speculations is one and the same. Just to the extent that we are accurate in our measurements, whether applied to things material or immaterial, to that same extent are we successful in attaining that for which we strive. Qualitative relations, too, are necessary, but the final test is quantitative accuracy in the product. Within certain limits, at least, the more accurate it is the greater value it possesses. The testimony of the chemist who proves the presence of arsenic in the body of the supposed victim of poison possesses a certain value,

but its value is immensely enhanced, if the chemist is able to prove that the quantity is sufficient to cause death. Spencer points out the fact that the much admired Discobolus, as it is posed, must fall forward the moment the quoit is delivered. A reasonably accurate mental weighing of the parts of the figure would have spared the blunder, and added much to the effectiveness of the artist's conception. Astronomers before Kepler knew much concerning the positions and motions of the members of the solar system, but it was left to Kepler to demonstrate that certain of those facts could be weighed and balanced, and synthesized into the great "harmonic law." That is, the established quantitative relations, the effect of which is to fill the mind with wonder and put us a step nearer to that grandest of all conceptions, that this is, indeed, a universe under the control of the laws of the Absolute.

The value of right habits in accurate determinations can scarcely be overestimated. This belief found expression in the report of the Committee of Ten in the shape of a recommendation that laboratory work in physics should be largely quantitative. All the more recent text-books and laboratory manuals on chemistry show the same tendency. But much as we believe in the value of quantitative work, a note of warning may not be out of place, for there is something more than a possibility that the process may be carried too far. The principal of one of the largest New England high schools wrote me a short time ago, that no subject in the curriculum was so thoroughly detested as the physics work required for entrance to Harvard, and that there were more failures in that subject than in all the rest put together. He thought that, by reason of the extreme quantitative methods required, all the life and soul had been taken out of what was once a most fascinating study. The all-important question to be asked of a candidate for admission to college should not be: have you read the *Anabasis*, or mastered Remsen's *Briefer Course*, but have you arrived at a certain stage in the development of those powers which God has implanted in you? The particular road the student has traveled is of little

moment. The important fact to be ascertained is that he has or has not reached a certain point. The multiplication of the courses of study in the secondary schools; the growing disposition to permit greater freedom of choice in the earlier years of the college course; the more general acceptance of the doctrine of the substantial equivalence of studies having the same time allotment; the constant insistence that the teachers must be better prepared for work in the secondary schools; all these point to the same general conclusion, viz., that the question which should confront the applicant for admission to college is not what have you studied, but how well? This does not mean that the pupil in the preparatory school is to have absolute choice. While I find it difficult to accept, without reservation, the doctrine in the report of the Committee of Fifteen, that any subject worthy of a place in an educational scheme may be placed in one of the five categories defined in that document, I do believe that representative studies from each of those five categories should be found in the required part of every secondary-school programme. The omission of any one of these groups, as Dr. Harris has said, "will distort the pupil's view of the world." But within those groups a wide range of choice should be permitted, so that, the individual needs of the pupils may be subserved. By the way, the courses of study adopted by the New York City high schools are most admirably arranged to meet this very need. All this means, so far as it relates to the subject under discussion, that the secondary schools believe that good work done by them in science, as well as in other subjects, should be accepted by the colleges as a part of the entrance requirements.

One more point and I am done. No word in the language is more abused than the word culture—unless it is that most inclusive of terms, professor. In the war that has raged for years it is not singular that each of the contending parties should seek to establish its claim to a measure, at least, of the best that resides in the other. The exponents of the scientific method as used in natural science work have made, oftentimes, what seem

like most extravagant claims as to the culture value of science. On the other hand the members of the aristocracy of culture have not considered it beneath their dignity to hold that the scientific method is even more applicable to the classics than to the natural sciences. The one claims a monopoly of the scientific method with all accruing benefits including a large share of culture; the other has appropriated and holds as its own the culture of the world, and has used in acquiring it the true scientific method.

The truth probably is that both are right and both are wrong, as is usually the case in such contests. "There is a cant of science as well as a cant of the classics." When Dr. Worship-the-past is at his best an ideal culture secured by and through the scientific method is the rich and varied product. But when the doctor is at his worst, and this happens no one knows how often, both culture and the scientific method are relegated to the storeroom. When the scientific Dr. Up-to-date is at his best the scientific method in action in a marvel of beauty and precision, and real culture grows apace. But when the doctor is at his worst, and he is in this respect a worthy rival of Dr. Worship-the-past, the voice of nature, the music of the spheres is drowned in the noise of the tom-tom, and the name of culture has become a by-word. That is to say, the factor that must never be left out of account in estimating the culture value of any subject, is the personality of the teacher.

Science teaching to yield a worthy culture must be something more than a series of showy and haphazard experiments; but it is also true that Latin teaching must rise above the mere grinding of paradigms, or mechanical and barbarous translations. President Jordan has said: "As volition passes over into action, so does science into art, knowledge into power, wisdom into virtue." Ideally, yes; practically, sometimes. I do not know; but this I do believe most firmly: whatever your definition of culture, there should be in anything worthy of that name a dynamic element which is best derived from a rigid adherence to methods of verification of results. This begets a firm belief in

the validity of the deductions resulting from one's individual experience. The student thereby comes to believe in the reign of universal law. When he arises to this conception, then, and not till then does he fully realize the necessity of obeying the laws of God and man. There are those, and their name is legion, who really think that it doesn't matter very much whether we do right or wrong. They observe that evil sometimes goes unpunished, that the apparently good are not always happy. Such persons lose, or never gain, a proper respect for law either civil or moral. They are non-ethical chiefly because they have never risen to the conception of the universal reign of law. This conception need not, it does not, destroy feeling, it is complementary to it. It is not external to culture, a mere corrective, though it does correct. It is, or ought to be, a part of culture. This completeness of result, many of us believe, can be best secured by giving a fair proportion of time in secondary schools to experimental science.

DISCUSSION

PROFESSOR E. G. CONKLIN, University of Pennsylvania: With most of the positions taken by those who have immediately preceded me I entirely agree. There are, however, some propositions with which I would take issue and still others which seem to me to demand even greater emphasis than has been given them.

In his fourth thesis Professor Tarr points out a truth which at this time needs to be presented frequently and earnestly. The colleges with relatively few exceptions do not properly recognize the science work done in the preparatory schools. Even in some of our largest universities there are no entrance requirements in science, and in a great number of higher institutions of learning these requirements are ridiculously small. The present attitude of all such institutions is one of positive discouragement to scientific teaching in the schools. There is, of course, a great deal of so-called science work in the schools which cannot be recognized by the colleges; but anyone who will take the pains to acquaint himself with the science work which is being done by the larger high schools, especially in the East and middle West, will be ready to testify that such work is worthy of being

recognized by the colleges. In fact it seems to me that there is a dangerous tendency on the part of such schools to offer work of too high, rather than of too low grade. On the other hand there is a great deal of poor and inadequate science teaching in some of the schools; this is pretty largely confined to the private preparatory schools and to the high schools of the smaller cities and towns. The excellent courses in science offered by the larger high schools are in no sense the result of the fostering influence of the higher institutions of learning; they are due to the fact that such schools have cut free from the colleges and are offering courses which meet the demands of their patrons. On the other hand the colleges are directly responsible for the deficiencies in the science work of the preparatory schools. A few of the leading universities of the country have taken some very practical steps to right this wrong (for I consider any system of education which neglects science as intellectually and morally wrong) and it is only a question of time when all our higher educational institutions will do likewise. As science teachers in the schools and colleges we should demand without ceasing that, in the entrance requirements, science shall be granted all the rights and privileges of the most favored subject. If three years of science work cannot be added outright to the entrance requirements, I should endorse the suggestion made by Professor Wilson that certain well-taught sciences be taken in lieu of other required subjects for admission to college.

In his fifth thesis Professor Tarr states that there is still much pseudo-science taught and that no claim can be made in its behalf. The same thing could doubtless be said of any other general subject. However, even pseudo-science, *i. e.*, science which is imperfectly taught, is better than no science at all. Apart from the method of science, its matter is of such value that it seems to me worth while to teach it in a poor and imperfect way, rather than to omit it altogether. I maintain that even text-book science is better than none, and while I should be opposed to accepting such work for admission to college, I feel that there should be no attempt to "eliminate" such work except by the process of substituting something better.

Another subject to which I wish to call attention is presented in Professor Tarr's theses Nos. 9 and 10. Whatever the consensus of opinion may be, it seems to me that the purely observational sciences ought in every case to precede the experimental. For that reason natural history is one of the very best subjects with which to begin.

Physical geography, if made really observational, is equally valuable. There has been of late a growing tendency to regard natural history as a sort of amusement, rather than as a serious and dignified study. The fact that experiment is one of the most important methods of science has apparently led some persons to the view that all science teaching should begin with experiment. However, science is no less observational than experimental, and it is observation rather than experiment which earliest appeals to the developing intellect. I have found no subject quite so interesting to children as natural history, and in the hands of competent instructors I believe none would be more useful. As things now are, young persons are introduced to science through the medium of test tubes, instruments of precision, dissecting instruments and microscopes. What influence premature experimentation may have on the advanced study of chemistry and physics, I cannot say, but in biology it results in a generation of young persons whose only ideas of beauty, variety, and life-conditions of the living world are derived from the dissection of five or six plants and animals. I would greatly prefer to have a student come to me for advanced work in zoölogy, knowing something about the habits and life-histories, the external morphology and classification of a large number of animals than to have one who knew only the digestive, circulatory, excretory, and nervous systems of five or six forms. And this order of presentation would be the best for the student whether he ever pursued advanced subjects in biology or not. In all cases natural history should precede anatomy, histology, or embryology, and I think it might well precede any other science. Physiology as commonly taught in the schools, *i. e.*, without laboratory work, might much better be replaced by natural history, which, when properly taught, would contain all that part of physiology which could be brought under direct observation without the aid of special apparatus.

• This tendency on the part of preparatory schools to take up the more advanced subjects of any science and omit the more elementary ones leads me to the consideration of Professor Wilson's theses Nos. 4, 5, and 6. There seems to be a perfect craze for specialization in these times. There was a time when some persons looked with misgivings upon the tendency to specialize in the college, and I think that even now most educators would agree that it is not wise to begin to specialize as early as the freshman year, and certainly not before that time. Under existing circumstances I believe that the high schools

and preparatory schools would better fulfill their functions to those who go to college and to those who do not, if they were to devote a year to each of several sciences rather than several years to any one science. Even two years of any one science would necessitate the crowding out of some other important one, and this I feel ought not to be done. The physical sciences are so interdependent that one cannot properly understand one without some knowledge of the others, and it seems to me that physics, chemistry, biology, and perhaps also the earth sciences, as Professor Tarr has suggested, should each be given one year in every well equipped preparatory school. I acknowledge the cultural value of *intensive* work, but in the preparatory schools we must have *extension*:—if not here, where will it be had? If young men and women are to be prepared not only for college, but also to take an intelligent interest in the world in which they live, it is necessary that they have the broader rather than the narrower training; and if the devoting of two years to chemistry, or physics, or biology, involves, as it does, the dropping of some other subject, it seems to me that it would be a very unfortunate thing to do. As teachers, I suspect that we are all guilty of exalting our subject and forgetting other subjects, of striving to meet the needs of an ideal curriculum rather than those of the actual student. We forget that the things which are of most value to us may not be most valuable to our pupils. It frequently happens that teachers, fresh from the universities, attempt to import university method into preparatory schools, to open university courses, journal clubs, seminars and research work for elementary students, while at the same time the fundamentally important elementary work is neglected. So far as the subject of biology is concerned, I believe that this is largely due to the fact that teachers have had no adequate training in the more elementary subjects, such as natural history; they come up to the colleges and universities without any such training and they do not get it in these higher institutions of learning. It has sometimes seemed to me that the only remedy for this state of affairs is for the universities to exchange places with the preparatory schools; certainly the higher institutions must take up this elementary work if they are to fit teachers for the preparatory schools. If there is time for specialization in the preparatory schools after these necessary foundations have been laid I for one should not object, but I do object to any system which builds from the top down.

PROF. LER. C. COOLEY, Vassar College: Mr. President, Ladies and Gentlemen. I find myself in such hearty accord with the theses that have been so ably and interestingly presented to us this morning, that I have really grave doubts whether I shall be able to add to the value of this discussion. I think, however, that at the outset, and throughout the whole discussion, two points should be kept distinctly in view. We are considering the consensus of opinion in regard to the work of the preparatory school. In the first place we should remember that the term "preparatory school" covers all the grades from the primary to the high school inclusive. The second point which I think we should remember is this: these preparatory schools, being as they are, so largely public schools, supported by the money and by the sympathies of the people, should be schools devoted to the education of the children of all the people. A small fraction of all these will go to college; the masses of the children of the people are destined to go directly from the preparatory schools into the activities of life. Therefore the public or preparatory schools should aim to give the education which will best prepare the children of the people, either for college or for life; and I think it a fortunate thing, which I believe to be true, that the education which is best to fit boys or girls for the pursuit of the higher courses in college, is the very same education which best fits them to meet the conditions of life, if they must go directly from the high school to business (applause).

As far as I have been able to discover, there is but a single point upon which a unanimous agreement relating to science in education has been reached. It is that which is stated in the second thesis of the paper by Professor Tarr. We must all admit that science has made for itself a permanent place in the schools; and however that has been brought about, or whether we cordially approve the result or not, the only wise thing for us to do now, as educators, is to make the most of science and the best of it as an educational subject. But where in the schools is this permanent place? As stated by Mr. Wilson in his first thesis, there is no general consensus of opinion on this point. The fact that we must make a place for science is admitted; but just where the place shall be we are not agreed. I believe, however, that the lines of current opinion are tending to an agreement which will be reached at no distant day, which shall be as general in regard to the true place of science in the schools as that which now prevails in regard to the true place of languages, or history, or any other depart-

ment. Mr. Wilson has pointed out four features of the subject which illustrate this convergence of opinion. We are all agreed, for instance, that a certain fraction of the time total devoted to study in the secondary schools, shall be given to science. It has been put at one-fourth. But I believe that the question as to the sum total of science does not at all settle the place of science in the curricula of the schools. Shall the teaching of science be concentrated in some fractional part of the course, as in the upper years of the high school; or shall it be extended throughout the whole length of it? Shall it be fragmentary; or shall it be continuous? These, it seems to me, are questions equally important with the question as to the sum total of time that should be given to the study of science. I think that the quarter is a very good fraction of time to devote to science in the schools, but I would lay less stress upon this sum total of time, and I would put greater stress upon the fact that the study should be continuous and progressive from the beginning to the end of school life (applause); and this is the point, I think, toward which the lines of opinion are converging.

I have lately tried to learn something of the state of opinion which prevails, and also of the actual practice in our schools in regard to this matter of distribution of the study of science. I have asked a large number of superintendents, principals, and teachers in the schools of the large cities, and many of the large towns of our own state, and of some in other states. A large number of those I have asked have shown a deep interest in the subject. They have given me detailed descriptions of their school programmes, and they have accompanied these with distinct statements of their opinions and purposes in regard to science teaching in their schools. Of the large number from which I have heard, fully 60 per cent. show that the elements of science, beginning with the simplest, of course, are to be taught alongside of the elements of the other departments in the very earliest grades, and that instruction is continued from grade to grade until the last year of the high school has been passed. In many of these the course is not only continuous, but it is systematic; that is to say, systematic as a line of work. I do not mean that it is the formal study of any particular science. The formal study of a science, in my opinion, ought never to come in the lower grades, but I would have instead a systematic line of work which should carry the student through a series of studies relating to objects which are open to his observation that should become more and more serious as he passes from grade to grade.

Such a course of study is given in a large number of the progressive schools in this and other states. It seems to me that current opinion is coming to this; education for its own sake requires that, alongside of continuous courses of study in other departments of human knowledge, an equally continuous and parallel course of study in subjects relating to nature is required, in order to promote the healthy growth and complete development of the pupils in the preparatory schools. Opinions are being led toward this conclusion by all the solicitations of reason. The principle of continuity is acknowledged to abide in other directions. We know that no organ of the body, and I think we believe that no part of the intellect, can be strengthened by any other than a proper exercise, continued for a sufficient length of time to make its impression upon those who pursue the practice of it. It would be inconsistent to expect that a large amount of mental training can be obtained from the study of science without giving it a prolonged opportunity to show its educational value by establishing habits of thought. Science study for training is not a touch-and-go kind of work; it must be made continuous, and be well directed toward definite purposes through the years, just as we make the study of language and of mathematics, and as I hope we shall all consent to make the study of history continuous and progressive throughout the whole length of the preparatory course (applause).

C. B. WOOD, of Central High School, Pittsburg, Pa.: The ground has been gone over so thoroughly that I think I can add very little that will assist in solving the problem. This demand for science has been an interesting subject to me during the whole course of my school life. Among my earliest recollections on entering college was this very struggle between the classics and the sciences. I remember that the white-haired professor stood on the platform and urged us to enter the classical course, and made what seemed to us a startling statement that if he had but three months in which to attend college and knew that he could go for three months only, he would enter the regular classical course. But there were a great many young men who still insisted upon studying science. A new element has entered into our life during the present century and they were being moved by it. They knew not why, but they were not satisfied with the careers then open to young men, law, medicine and the pulpit. They felt that there was something else. Great inventions had already been made, bringing wealth

to their possessors; and they felt that there was a career for them in some other direction. Of course they had no idea of the immense development which has taken place since that time, but there was a rising tide then in the minds of young men and in the minds of people generally of something else to be learned besides the ancient classics. Although I entered the classical course myself, I was an interested observer of these students. They insisted upon studying science and the authorities made for them a so-called scientific course consisting of physics, chemistry, all the ologies, and mental and moral philosophy. We, in the classical course, used to amuse ourselves by despising the "poor scientists," but they persisted. Now as I look back and remember how science was not taught to those "scientists" and to all of us, I think that perhaps the old professor was right and that three months of classics was better than the whole two years of such science. If I were to judge entirely by my personal experience, I should say that the good teaching of science is in the high schools and the bad teaching in the colleges, but my college experience was forty years ago. Now the scientific course has not only become respectable by additions to the course and improvement in the methods of instruction but the sciences are recognized in the colleges, as of equal value with the classics. We would like this recognition extended to the high-school work. The same sentiment which inspired those young men to demand a scientific course in college exists among the masses of the people today. I believe it is especially to the interest of the small high schools that good science work therein should be encouraged by the colleges. The schools must to a large degree shape their courses to suit public sentiment and in the majority of places public sentiment will not admit of a classical high school at public expense. We have had struggles of our own own to maintain a course in Greek and I well remember one or two occasions when some of the governing committee thought Greek might as well go. Since Greek has been put on its own bottom the trouble has disappeared and we have larger classes than we had before when we were insisting on it as the one essential element of a liberal education (applause). We have two hundred pupils in the second grade (in which Greek is begun) and fifty of them are studying Greek. But it is not always Greek with which they are enamored that leads pupils into that class, and mistakes are made as to the relative value of Greek and science by not considering the personality of the student. Many pupils enter the classical course in order

to get in with a certain crowd. Many fail to do good work, not because they are not studying Greek and Latin, but because they have not the ability to do anything. One class is brighter than another not because they are studying Greek but because there is a difference in individuality. Examine the records, ascertain the parentage, find what part of the city they come from, what are their surroundings and heritage and you will find ample reason for all the differences which exist between classes. Latin and Greek are purely optional studies with us, and yet, all of our pupils take Latin, and twenty per cent. take Greek. There are so many sections in each grade that we have no difficulty in providing for whatever is required for admission to college. In a small school this is not the case. In a total of thirty pupils in a given grade it is difficult to provide for four or five who wish to prepare for college. In a large school, with many sections in each subject we are enabled to employ and fully occupy specialists in every subject taught in the school. We, therefore, urge the colleges to recognize the general high-school course as a preparation for college for the double purpose of improving the science teaching in our high schools and of enabling some pupils to go to college who cannot go under existing conditions.

THE PRESIDENT: This completes the list of science speakers. Our aim, you remember, was to reach a consensus of opinion on the place of science in the secondary schools. I do not know how far you may consider we have achieved that end—I sometimes think we make less progress than we expect, in these gatherings. I recall a story of Lincoln's in this connection that goes back to the Civil War. McClellan was commanding the armies and he hovered about the James River, when the administration was anxious he should push on to Richmond—not only as a general policy but to crush the Confederate forces before they should have time to gather together again. Naturally McClellan fell somewhat into disrepute at Washington. One of his friends called on the president, and fearing he could not say much in favor of the general with reference to the particular campaign in hand, he ventured the statement that McClellan was, at least, a good engineer. "Yes," said Lincoln, "but a stationary engineer" (laughter). I sometimes think we are almost

in that position ; but there may be gentlemen or ladies here who can do something more to promote or advance the consensus of opinion, or at least the voicing of the consensus of opinion, which it is to be presumed we have now reached on the place of science in the schools. If so, now is the time to come forward. We shall have business shortly, but there is still a little time to continue this discussion under the ten-minute rule.

DR. CHARLES DE GARMO, President of Swarthmore College : While scientists are getting their minds ready with points they want to make, I desire to call attention to one fact that will be evident upon reflection to every body, but which seems to me to lead to a possible confusion in some of our minds ; and that is, I want to emphasize the fact that quantity of work in science is by no means synonymous with specialization. Pupils who study chemistry for two years need not specialize in the least ; indeed, they are not fit for specialization. We find in the college that it is only about in the fourth year of chemistry where it is pursued for long periods each week—for from six to eight hours—that the students have reached a point at which they can begin to specialize. I think, if there is one thing more needed than another, in all our science work in the secondary schools, it is just this point—that we should give up the smattering systems of the earlier days, and take on greater continuity and quantity of work in the subjects we attempt.

PROFESSOR BRIGHAM, of Colgate University : I would like a moment to emphasize one point—the last thesis of Professor Tarr—because, it seems to me, there is a good deal of horse sense in it. Hearing the papers this morning, and watching things for some years, it seems to me that we are safely agreed on one point, that a good proportion of time should be given to science in the schools, either as elective or required work, and, as has been proven over and over again, the classics are in no danger of suffering ; we might as well also take it for granted that college recognition, so far as it has not come already, is sure to come. We at Colgate are a fairly conservative, small college ; and yet we are beginning to admit options in the scientific subjects. We are all agreed, as a matter of general principle, that questions of order and method are not supreme ; the supreme thing always is substance. A very wise teacher of geography a few

months ago, being asked by his young lady pupils, "When are you going to give us some method?" said, "Don't ask me for method until you know some geography." I have not the time to enlarge upon that text; but there is much in it. It was intimated that there is a disagreement among the scientific men as to what they want in the schools. We will grant that and not be ashamed of it; it is the very creditable disagreement that accompanies inquiry; and I want to call your attention to one further fact, that a year ago a committee was appointed looking towards some formulation of our ideas of order and place in the secondary schools. You may remember that a committee was appointed, for instance, by the National Educational Association, that similar committees were appointed from the New England Association, the Southern, the Western Central, and the American Association for the Advancement of Science; so that it is at least significant that secondary and college men, deeply interested in these questions, have them under advisement; and if our classical friends can be patient, two or three years will see some kind of consensus; it will not be a cast-iron programme, we shall always have to take into account questions of environment and peculiar needs; but we shall get at something which will be, in the long run, healthful and satisfactory.

PROFESSOR CATTELL, of the University of Columbia: The man of science believes in action rather than in words. I move the following:

Resolved, That this association recommends Princeton University and the University of Pennsylvania to adopt science as an entrance subject.

Motion seconded by Professor Conklin.

THE PRESIDENT: I do not understand that Professor Cattell presses his motion.

PROFESSOR CATTELL: I do press it.

THE PRESIDENT: If that is so, it will come up in due time under motions and resolutions.

THE PRESIDENT: The platform is now open to other speakers under the ten-minute rule. Have we reached the maximum consonance of views on this subject? What is the further pleasure of the convention? Shall we pass on to other business and consider this discussion closed? If there is no dissenting voice

it will be done. The first business before us is the reports of committees. Treasurer's report.

TREASURER JOHN B. KIEFFER, Professor of Franklin and Marshall College, then read his report.

THE PRESIDENT: You have heard the report of the treasurer. I will ask the secretary to read the report of the auditing committee.

The secretary then read the report of the auditing committee, which, on motion, was adopted together with the treasurer's report, and the two ordered filed.

THE PRESIDENT: Nominating committee will now report.

The secretary then read the report handed in by Professor Sharpless on nominations of officers for 1897 and 1898, which was accepted on motion, and the officers named elected.

LIST OF OFFICERS FOR 1897-8.

President.—Dr. Julius Sachs, New York City.

Vice Presidents.—Professor Herbert B. Adams, Baltimore, Md.; Professor E. E. Hale, Jr., Union College, New York; Principal Eliot R. Payson, New Brunswick, N. J.; Principal Isaac L. Johnson, Wilmington, Del.; Professor William H. Mace, Syracuse, N. Y.; Principal C. B. Wood, Pittsburg, Penn.

Secretary.—Professor Dana C. Munro, Philadelphia, Penn.

Treasurer.—Professor John B. Kieffer, Lancaster, Penn.

Executive Committee.—The President, the Secretary, the Treasurer, Professor John Quincy Adams, President J. G. Schurman, Mr. Wilson Farrand, Professor Achsah M. Ely.

THE PRESIDENT: Any further committees to report?

PROFESSOR STODDARD: The committee appointed two years ago to report on books for entrance examination for the years 1901-2, wishes to present a report of progress. The full report is not given at the present time because the committee has still to be represented at a general conference of all the associations of the country to be held in Philadelphia in December of this year. The partial report, as presented, is an extremely conservative one, maintaining practically the system which has been in effect for the last two or three years, and with very slight changes in the books read and studied. Although it

is essentially conservative, it has not been arrived at without very serious and continuous deliberation—being based upon the reports sent to the committee from nearly all of the colleges and many of the preparatory schools concerned in this work, in all the states of the Union. It is based upon very elaborate reports from various institutions, particularly from the regent's office at Albany, which rendered very great assistance to us; based upon the conference held in New York in May, at which delegates attended from the association of the northwestern states, from the association of the southern states, from the association of the New England states, and from this association. In presenting this report I may, perhaps, add that I think the members of the committee are wholly in accord with all suggestions of Dr. Sachs in his remarks yesterday, and, furthermore, that the recommendations of the committee indicate a minimum only, with the hope that most colleges and many preparatory schools, will be able to largely increase them.

REPORT OF THE COMMITTEE ON ENTRANCE REQUIREMENTS IN
ENGLISH

The committee recommends that the books set for reading and practice, for the years 1901 and 1902, be the following:

Shakespeare's *The Merchant of Venice*; Pope's *Iliad*, Books I, VI, XXII, and XXIV; the Sir Roger De Coverley Papers in *The Spectator*; Goldsmith's *The Vicar of Wakefield*; Coleridge's *The Ancient Mariner*; Scott's *Ivanhoe*; Cooper's *The Last of the Mohicans*; Tennyson's *The Princess*; Lowell's *The Vision of Sir Launfal*; George Eliot's *Silas Marner*.

That the books set for study and practice, for the years 1901 and 1902, be the following:

Shakespeare's *Macbeth*; Milton's *Lycidas*, *Comus*, *L'Allegro*, and *Il Penseroso*; Burke's *Speech on Conciliation with America*; Macaulay's *Essays* on Milton and Addison.

That there be inserted at the end of the statement of the requirements for reading and practice the following sentence:

"In preparation of this part of the requirement, it is important that the candidate shall have been instructed in the fundamental principles of rhetoric."

That there be inserted at the end of the statement of the requirements for study and practice the following sentence:

"In addition, the candidate may be required to answer questions involving the essentials of English grammar, and questions on the leading facts in those periods of English literary history to which the prescribed works belong."

The committee believes that, so far as is practicable, colleges should require clear and idiomatic English in all examinations papers and notebooks written by candidates for admission. Teachers are requested to insist on the use of good English as an essential part of the pupil's training in his translations from foreign languages, and in whatever he writes or speaks on any subject in the school course.

FRANCIS H. STODDARD
GEORGE R. CARPENTER
WILSON FARRAND

PROFESSOR STODDARD: It is understood that these recommendations are merely offered as suggestions and are not imposed as requirements upon any of the colleges. These recommendations have, since their adoption by the conference, been adopted by the Southern Association of Colleges and Preparatory Schools, by the Western Association of Teachers of English, and by the New England Association of Preparatory Schools and Colleges.

PRESIDENT RAYMOND, of Union College: I was requested to appoint a committee to form an organization of the colleges of this association; and I appoint as that committee: President Taylor of Vassar, President Sharpless of Haverford, President Stryker of Hamilton, President Johnston of Manhattan, President Davis of Alfred University.

PROFESSOR CATTELL: I venture, as a result of the discussion of this morning, to make the following motion:

"That we recommend that all colleges of this association adopt science as an entrance subject."

THE PRESIDENT: It has been moved and seconded that we recommend that all colleges of this association adopt science as an entrance subject.

PROFESSOR STODDARD: I move that that be referred to the executive committee. [Motion seconded and carried.]

PROFESSOR WILLIAM W. BIRDSALL, Principal Boys' Department Friends' Central School, Philadelphia: I do not know that any formal measures have been taken to record our sense of obligation to the faculty and trustees of Vassar College. Do you know, Mr. President, whether it has been taken?

THE PRESIDENT: I am not aware of any action up to this moment.

PROFESSOR BIRDSALL: I will move, then, that the thanks of this association be tendered to the authorities of Vassar College for the gracious hospitality which we have enjoyed yesterday and today, which has been appreciated by all of us and enjoyed to the utmost.

THE PRESIDENT: You have heard the motion—that the thanks of this association be tendered to the authorities of Vassar College for the hospitality and courtesy which they have extended to the association. [Motion carried.]

THE PRESIDENT: The treasurer of the association desires to make a motion.

THE TREASURER: I move, Mr. Chairman, that the association refer the deficiency in the treasury to the executive committee. There is a deficiency of two hundred and odd dollars on last year's account, and we thought that perhaps it would not be best to deal with it in the meeting—the general meeting of the association—but that the executive committee could deal with it better than the association itself. I move, therefore, that that deficiency be referred to the executive committee with power.

THE PRESIDENT: You have heard the motion—that the matter of dealing with the deficiency be referred to the executive committee with power. [Motion carried.]

MRS. CASSEDY: May I ask whether the association will permit me to present the greetings of the National Congress of Mothers?

THE PRESIDENT: How long will you need?

MRS. CASSEDY: Two minutes.

THE PRESIDENT: Is it the pleasure of the association that two minutes be set aside (it is suggested by a gentleman that we make it five) for the presentation by Mrs. Cassedy of the work of the National Congress of Mothers; shall the time be conceded for that purpose? [So moved and motion carried.]

MRS. CASSEDY: Gentlemen and ladies, by your gracious courtesy I am permitted to bring to you the greetings of the National Congress of Mothers, and ask on its behalf for the sympathy of this body of educators with the work which it proposes to do. This organization met in Washington last February at the call of Mrs. Theodore W. Birney, president, and Mrs. Phœbe A. Hearst, first vice president. It will hold its next convention in May, at which it hopes to have present representatives from all leading educational institutions, for conference regarding matters in which both mothers and teachers are vitally interested. The object of this congress is the organization throughout the land of mothers' clubs, which purpose to arouse mothers to the realization and comprehension of pedagogical principles and intelligent methods in the care and training of children, and to create a closer bond of union between the home and the school; that mothers and teachers may coöperate more intelligently to secure the perfect development of the children committed to their joint care. They will also endorse kindergarten principles from cradle to college and the training of young women with distinct reference to their destiny as women. The latter experiment has been tried in the institution over which I preside; and over one hundred young women are practically studying there the principles of race development, and are finding in this study their own highest incentive to physical development and mental and moral unfoldment; and another year a knowledge on the part of our young women of kindergarten and pedagogical principles will be a requirement for graduation in our school. This study may not be a requirement for entrance to college, but I am very sure that it is a requirement for entrance into the best-conducted homes.

I hold in my hand a report of the last congress—a report of which Mr. Charles R. Skinner, the superintendent of public instruction in the state of New York, writes as follows (after commending it and the

included papers he continues): "The wide circulation of this report throughout the country would certainly result in great public benefit. You will please forward to me five copies, bound in cloth, which I shall take pleasure in adding to the State Teachers' Library, which is at the free service of all teachers of the state."

I shall be glad to talk informally with any one who is interested to know more of the specific plans and objects of the Congress of Mothers. I thank you again for your courtesy (applause).

THE PRESIDENT: This admirable and lucid explanation has taken only half the time assigned by that resolution.

What is the further pleasure of the association? Any further business to come before us?

Meeting adjourned.

TREASURER'S REPORT

To the Association of the Colleges and Preparatory Schools of the Middle States and Maryland.

Gentlemen: Herewith I present to you an itemized statement of the amount of money received and expended by me, as treasurer of your association, during the year ending November 25, 1897, as also the vouchers for the several disbursements made. It will be seen that the receipts amount to \$1203.94 and the expenditures to \$756.92, and that the balance in my hands at the date of this report is \$447.02. I have appended also an analytical summary of the expenditures in order that it may be seen at a glance what proportion the several items bear to one another. In that summary it will be noticed that there is an unpaid balance due on the bill of the Avil Company for printing, amounting to \$266.91. This amount represents the deficiency in the treasury for the year 1896-7, or, to speak more precisely, the deficiency amounts to the difference between \$266.91 and \$52.61, or \$214.30, inasmuch as, of the \$447.02 now in my hands, \$52.61 are delayed payments of dues for 1896-7. I respectfully request the association to authorize the executive committee to take such measures to provide for this deficiency as in their judgment are equitable and practicable.

Receipts:

Amount in hand Nov. 25, 1896.	-	-	-	-	-	\$418.94	
Membership dues, 1895-6, 5 schools,	-	-	-	-	-	25.00	
Membership dues, 1896-7, 57 schools,	-	-	-	-	-	285.00	
Membership dues, 1897-8, 95 schools,	-	-	-	-	-	475.00	
Amount of receipts,	-	-	-	-	-		\$1203.94

Disbursements:

For Executive Committee meetings,	-	-	-	-	-	\$110.93	
For reporters, stenographers, and typewriters,	-	-	-	-	-	146.86	
For officers' stationery, postage, and telegrams,	-	-	-	-	-	70.13	
For paper and printing,	-	-	-	-	-	684.91	
For trunk lines association's agent,	-	-	-	-	-	11.00	
						\$1023.83	
Less unpaid balance of printer's bill in hands of treasurer,						266.91	756.92
Balance in treasurer's hands, Nov. 25, 1897, to meet expenses of 1897-8, and the above unpaid balance,							\$447.02

Of the schools holding membership in the association four are in arrears for dues of 1895-6, nine for dues of 1896-7, and fifty-three for dues of 1897-8. There is available for the expenses of 1897-8, therefore, a possible sum of \$330.00 over and above the sum of \$447.02, now in my hands, but of which, as stated above, \$52.61 is to partially offset the unpaid balance of the printer's bill. With economy this amount, \$724.41, will not suffice to meet the expenses of the current year and pay the balance of the printer's bill.

Respectfully submitted,

JOHN B. KIEFFER, *Treasurer*

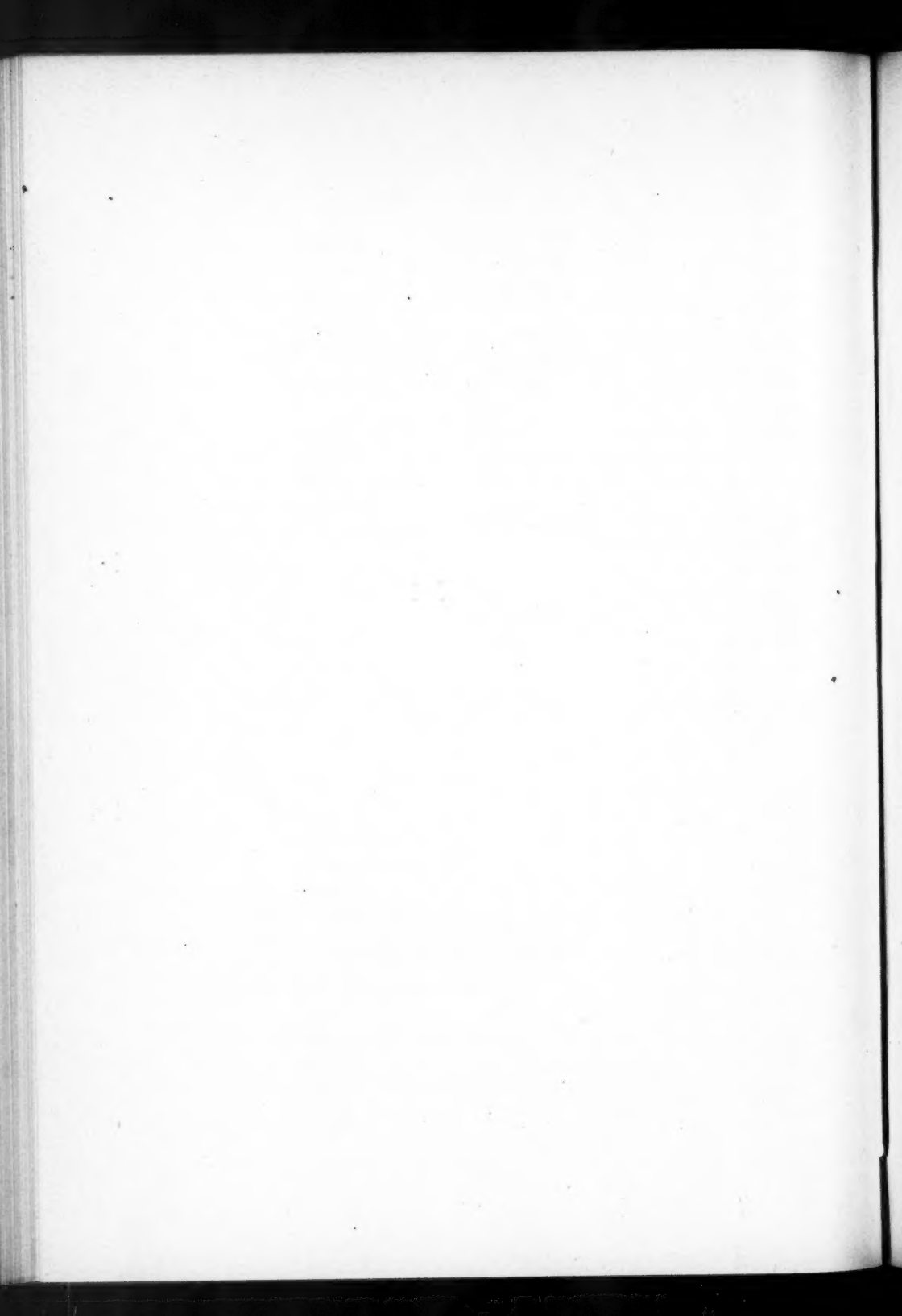
LANCASTER, PA., November 25, 1897

NOVEMBER 27, 1897

We have examined the accounts of the treasurer, Professor Kieffer, and find them correct.

F. C. FRENCH

R. W. MOORE



APPENDIX

On the morning preceding the meeting of the association, two conferences were held, of which brief reports are given below.

LITERARY CONFERENCE

The Conferences of the Literary College of the state of New York was called to order at 11 A. M. by Secretary Melvil Dewey, upon whose nomination President Raymond, of Union College, was elected temporary chairman. President Jones, of Hobart College, was appointed secretary.

Secretary Dewey presented the following tentative resolution :

Resolved, That this conference organize a league of the gymnasial college. After much discussion, the following form was arrived at :

Resolved, That in the opinion of this conference the distinct disciplinary American college having a four-years' course in liberal arts and sciences, should be maintained between the secondary school and the highly specialized and graduate courses of the university and professional and technical schools.

When adjournment was taken for lunch, at one o'clock, no vote had been reached. The conference reconvened at five o'clock and took the following action :

Voted, That a league be organized to consider the peculiar problems and to promote the interests of the time-honored American college giving a four-year course in liberal arts and sciences.

Voted, That a committee of five be appointed by the chair to draft by-laws and a tentative plan of work, and to call a meeting for discussion and action on the same and for formal organization.

President Raymond as chairman of the conference appointed as this committee : President J. M. Taylor, of Vassar ; President M. W. Stryker, of Hamilton ; President Isaac Sharpless, of Haverford ; President Justin, of Manhattan ; President Booth C. Davis, of Alfred.

MELVIL DEWEY

Secretary

HISTORY CONFERENCE

On Friday, November 26, there was held at Vassar College, Poughkeepsie, N. Y., a meeting of teachers of history and government, including principals interested in those subjects. A letter of invitation had previously been issued by the following: Herbert B. Adams, Johns Hopkins University; Lucy M. Salmon, Vassar College; H. Morse Stephens, Cornell University.

The meeting was called to order by Professor Salmon, of Vassar, who welcomed those present and introduced Professor Stephens, of Cornell, as chairman of the meeting. Professor Franklin S. Edmonds, of Central High School, of Philadelphia, was appointed secretary. In his introductory remarks Professor Stephens stated that the American Historical Association had appointed a committee of seven of its members to consider the "Teaching of History in the Secondary Schools." Their object was to obtain information, not to lay down laws. In order to simplify discussion the chairman, in conjunction with Miss Salmon, had worked out a series of problems over which there was wide divergence of opinion. These problems he stated for discussion:

1. What subjects should be taught under the name of history? Upon this there was no discussion.

2. In what order should the subjects under history be taught? Professor Stephens stated that the consensus of opinion at Chicago had been that history teaching should pass from the easiest to the more difficult. Another view was that the study should pass from one's own locality to wider areas. A contrary view suggested from ancient to mediæval, modern United States history and civics.

Mr. Warren, of Albany Academy, explained the attitude of the Committee of Ten on the subject of history. They thought that the waste of time came between the ages of eight and fourteen years, the time when the child has the most opportunity for outside reading.

3. Should *general* history be taught in the schools? Should it be taught chronologically or around specific countries?

W. W. Birdsall, of Friends' Central School of Philadelphia, favored a general view because of its broadening influence.

Mr. Montesor, of New York City, approved also of *general* history. He regarded all events as part of one great drama, and in teaching

believed in grouping events around about twenty culminating points so as to furnish a skeleton for the pupil.

Professor Salmon, of Vassar, favored a course in *general* history, referring to the success with which it is conducted in the German Gymnasia. She pointed out that it was impossible to teach certain topics, such as the crusades, except by stating them generally.

Dr. Julius Sachs, of New York City, suggested certain practical means for arousing deeper interest in history. During the first three elementary years the instruction should be largely by the mouth of the teacher. Afterward the German concentric system should be employed; that is, a general survey followed by a filling out of gaps. Then comes the third period of re-survey with text-books.

Mr. Warren asked Miss Salmon: At what age is history taught in Germany? A. From nine to eighteen, a total of about twenty-five hours. Q. What percentage go to the university? A. Forty per cent. leave at fourteen years. Of the 60 per cent. the great majority go to the university. Q. Is there any special study of German history? A. There is on the programme, but in practice they do not emphasize it unduly. The object is to give a well-proportioned view of history.

Miss Manning, of the Manual Training High School of Brooklyn, asked why colleges require specific courses in history rather than *general* history for entrance. She referred to her own experience, stating that she had not been prepared on *general* history, because it was not in the entrance requirements, and hence she was not fitted to take many of the college courses on the history of civilization and philosophy of history. Miss Salmon answered that she did not sympathize with the college entrance requirements. A gentleman asked whether Miss Salmon found many students unprepared in the general facts of mediæval and modern history. A. "Yes, when they come; but they give them a pretty stiff course before they go."

Professor Stephens stated that he favored the total abolition of entrance requirements in history.

4. Can history be taught from the sources in the secondary schools?

In opening this topic Professor Stephens referred to it as the "Nebraska Method."

Professor Munro, of the University of Pennsylvania, pointed out that in the East the source method was understood to mean the use of

the sources as supplementing the regular class room work. Dr. Buchanan, of the Boys' High School in New York city, criticised the high entrance requirements in Latin, Greek, and mathematics, because it necessitated the slighting of history. Mr. Fox, of New Haven, asked whether the source method could be tried in other topics than United States history.

Mr. Edmonds, of the Central High School of Philadelphia, referred to the essays of the students in that school, in the preparation of which the consultation of original sources is required. He pointed out that since a very great majority of their students took no supplementary college course, some introduction to the sources opened before them a vast literary field with which they should be acquainted.

The main object of the conference having been attained, Professor Stephens asked how many of those present taught history? A. Seventy-eight. Q. How many teach history as a principal subject? A. Twenty-five. Professor Stephens suggested the appointment of a permanent committee authorized to call conferences of history teachers.

Mr. Birdsall suggested the continuance of the same committee; this idea met with universal favor. Q. How many institutions here represented have historical departments; A. Thirty-five.

Dr. MacAlister, of Drexel Institute of Philadelphia, favored the teaching of *general* history as tending to give a broad and human view of life, stating that in German communities he had noticed a breadth and humanism of view that ordinarily Americans had not.

Miss Anderson, of Pittsburg, referred to the history course in the school with which she is connected.

Adjournment.

FRANKLIN S. EDMONDS

Secretary

THESES OF THE PRINCIPAL SPEAKERS.

THESES SUPPORTED BY DR. SHARPLESS.

1. Recent changes in university standards, which involve an increase of age for admission and which have produced additions of one year to preparatory courses, are probably unwise, but must be accepted as accomplished facts.

2. Much time can be saved by the proper selection and arrangement of studies, by better teaching and by decreasing the length of vacations in school and college.

3. It is not advisable for the small college to attempt to follow the collegiate departments of universities in advanced entrance requirements, in non-responsibility for the intellectual and moral habits of students and in methods of instruction adapted to advanced special students, *unless* they are so tied up by their relation to preparatory schools as not to be able to control their own standards. The small college should gradually differentiate itself and form a definite part of our system.

4. In many cases it is better that a boy or a girl should divide his or her secondary education, so as to have the latter part in the freer atmosphere of the college and be early fitted for business life, or professional study, or higher classes of the university. The passage to the university for senior and graduate instruction should be encouraged.

THESES SUPPORTED BY DR. SACHS.

In *specific* subjects of secondary instruction our efforts must be directed first, to fix the limits within which in language studies translation at sight is desirable; second, to develop a consistent course of historical study which can cover general history, rather than a specialized and unconnected course of study of the history of two or three nations; third, to make English the study to which all other topics must be subservient; on the broader questions of secondary education we must demand, fourth, a fuller allotment of time, larger number of weekly recitations, with more teaching, rather than recitations; fifth, radical improvement in the quality of the teaching.

THESES SUPPORTED BY PROFESSOR TARR.

1. Science teaching in the schools has been greatly improved in the past few years, and at present there is rapid progress.
2. The claim of science to a definite place in the curriculum is established and in the future we must count upon this.
3. This claim has been established against odds and with few favors.
4. Having established their position, the sciences are now ready to demand that recognition and support which the college can give.
5. There is still much pseudo-science taught. Every effort should be made to eliminate this, and no claim can be made in its behalf.
6. The science teacher should be well trained in one group of sciences and be allowed to teach these thoroughly and be expected to teach as little else as possible.
7. Each school should have at least one science well taught for at least one year.
8. Every science taught should furnish the training which science is capable of giving; but the cultural aspect should not be overlooked. This involves the introduction of laboratory work even more generally than is at present done.
9. There is no consensus of opinion concerning the order in which the sciences shall be presented, but the report of the Committee of Ten contains the best and most generally accepted order.
10. The question of order of presentation is a minor one, the most important being to have the subjects well taught.

THESES SUPPORTED BY MR. WILSON.

1. There is no general consensus of opinion as to the exact place of science in the preparatory schools.
2. There is, however, a pretty general agreement concerning certain specific features of the question, viz: (1) That about one-fourth of the whole time allotment should be given to science; (2) That all *real* science work should count toward admission to college; (3) That the science work should be less extensive and more intensive; (4) That not less than one year, of five periods each week, should be given every science taught in the preparatory school.

3. There is a decided tendency to make laboratory work quantitative in character.
4. There is a commendable growth of sentiment in favor of devoting at least two years to the study of some one science.
5. The argument against specializing in science in the preparatory school, on the ground that the pupils are too immature for such work is a specious one.
6. The all-important question to be asked of a candidate for admission to college should not be *what* have you studied, but how well have you studied?
7. The culture derived from the proper study of science is not less important than that which comes from the study of the humanities.

ASSOCIATION OF COLLEGES AND PREPARATORY
SCHOOLS IN THE MIDDLE STATES AND MARY-
LAND

CONSTITUTION

ARTICLE I

NAME AND OBJECT

SECTION 1. The name of this Association shall be THE ASSOCIATION OF COLLEGES AND PREPARATORY SCHOOLS IN THE MIDDLE STATES AND MARYLAND.

SEC. 2. The object of the Association shall be to consider the qualifications for candidates for admission to college and the methods of admission; the character of the preparatory schools; the courses of study to be pursued in the colleges and schools, including their order, number, etc.; the relative number of required and elective studies in the various classes; the kind and character of degrees conferred; methods of organization, government, etc.; the relations of the colleges to the state and to the general educational systems of the state and country; and any and all other questions affecting the welfare of the colleges and schools, or calculated to secure their proper advancement.

ARTICLE II

MEMBERSHIP AND VOTING

SECTION 1. Any college, normal or high school, or other school preparing students for college, in the Middle States and Maryland, may be received into membership in this Association upon approval of the Executive Committee.

SEC. 2. In transacting the ordinary business of the meetings of the Association all delegates present shall be entitled to vote, but on all questions requiring a decision *by ballot* each institution represented shall have but one vote.

ARTICLE III

OFFICERS

The officers of the Association shall be a President, one Vice-President from each state represented in the Association, a Secretary, a Treasurer, and an Executive Committee of four members, together with the President, Secretary, and Treasurer, who shall be *ex officio*, members of the Executive

Committee. These officers shall be chosen at the annual meeting, by ballot, and shall hold office for one year, or until their successors have been elected. The Executive Committee shall elect its own chairman.

ARTICLE IV

DUTIES OF OFFICERS

SECTION 1. The President, or in his absence a Vice-President, shall preside at all meetings of the Association, and sign all orders upon the Treasurer.

SEC. 2. The Secretary shall keep a record of all business transacted by the Association and conduct the necessary correspondence.

SEC. 3. The Treasurer shall receive and hold all moneys of the Association and pay out the same upon a written order of the President.

SEC. 4. The Executive Committee shall prepare business for the Association, fix time and annual meeting, call special meetings, and act for the Association in its recess; but the acts of this Committee shall always be subject to the approval of the Association.

ARTICLE V

MEETINGS

There shall be one annual meeting of the Association, for the election of officers and the transaction of other business. Unless determined by the Association the date and place of holding this meeting shall be decided by the Executive Committee, which Committee shall also have power to call special meetings of the Association.

ARTICLE VI

EXPENSES

To defray the expenses of holding the meetings of the Association, conducting the correspondence, printing, etc., the sum of five dollars shall be assessed upon each of the institutions represented in the Association, and any deficiency which may occur shall be provided for by special action of the Association.

ARTICLE VII

POWER OF THE ASSOCIATION

Decisions by the Association, of questions not pertaining to its organization, shall always be considered *advisory*, and not *mandatory*, each institution preserving its own individuality and liberty of action upon all other subjects considered.

CONSTITUTION

ARTICLE VIII

RELIGIOUS TESTS

No religious tests shall be imposed in deciding upon membership or other privileges in this Association.

ARTICLE IX

A QUORUM

Representatives from one-third of the institutions, belonging to the Association shall constitute a quorum for the transaction of business.

ARTICLE X

CHANGE OF THE CONSTITUTION

This Constitution may be altered or amended at any regular meeting by a vote, by ballot, of two-thirds of the institutions represented at said meeting.

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Important progress in natural-science teaching of secondary schools; science teaching has taken a prominent and unassailable position; serious obstacle in the path of science instruction; pupils, whatever their future, need science training; too much pseudo-science in schools; teacher should be specially trained in one science or group of allied sciences; makes little difference which group is selected; science work should be elastically elective; science instruction should be of disciplinary value; in the enthusiasm for the new, a tendency to overlook the importance of the old; when geography is properly taught, science study will produce better results; physical geography; science teachers have the right to demand that science be placed on list of college entrance subjects.	
Same Topic, C. C. Wilson, - - - - -	116-131
Scientific science teaching has been developed within thirty years; greater part of growth within last ten years; war between classics and sciences; the contentions of the classical advocates; those of the scientists; there is no consensus of opinion about science; consensus as to the amount of time that should be devoted to science; any science properly taught one year should count toward admission to college; movement toward making science work more intensive and less extensive; should a year of science offset a year of Latin or Greek? division of time in science study; answers favor immediate future of science in secondary	

- school; objections to early science study answered; quantitative accuracy necessary; not what have you studied, but how well? in culture value of any subject, personality of teacher must be taken into account.
- Discussion, E. G. Conklin, - - - - - 131-134
- Colleges do not properly recognize science work done in preparatory schools, and are responsible for deficiencies in such teaching; pseudo-science is better than no science at all; observational sciences ought to precede experimental; influence of premature experimentation on biology; craze for specialization; better devote a year to each of several sciences than several years to one science; in preparatory schools we must have *extension*.
- Discussion, Le R. C. Cooley, - - - - - 135-137
- "Preparatory School" covers all grades from primary to high school inclusive; schools supported by the people should be devoted to education of children of all the people; science has made for itself a permanent place, but where is this place? would lay less stress upon sum total of time, and greater stress upon the fact that the study should be continuous from beginning to end of school life.
- Discussion, C. B. Wood, - - - - - 137-139
- Long struggle between science and the classics; personal experience shows that good teaching of science is in high schools and the bad in colleges; public sentiment will not always admit of a classical high school at public expense; urge colleges to recognize high-school course as preparation for college.
- Further Discussion by Charles De Garmo, Professor Brigham, and Professor Cattell, - - - - - 140-141
- Wight, John G., Discussion, - - - - - 68-72
- Wilson, C. C., "What is the Consensus of Opinion as to the Place of Science in the Preparatory Schools?" - - - - - 116-131
- Wood, C. B., Discussion, - - - - - 137-139
- Work of National Congress of Mothers, Mrs. Cassedy, - - - - - 146-147

